

AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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D. K. MINOR, EDITOR.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JUNE 14, 1834.

Those subscribers who have paid in advance for the Journal, will please excuse any apparent want of attention in its selections for a few weeks past, as the deficiency, if any, arises from having had to devote the time which ought to be given to its columns to *borrowing* money, to pay its current expenses.

Those who have *not* paid for the current, but more especially for the previous years, will excuse us, we trust, for saying that unless they pay the amount due soon, we shall be compelled to strike their names from the list. It can no more be published without prompt pay, than a locomotive engine will ascend an inclined plane without steam. We shall forward their bills by mail, and desire them to remit by the same channel.

At a meeting of the stockholders of the Boston and Providence Railroad Corporation in Boston, on Wednesday the 4th instant, the following gentlemen were elected Directors for the ensuing year, viz.: Thomas B. Wales, Patrick T. Jackson, Joseph W. Revere, John F. Loring, of Boston ; William W. Woolsey, Charles H. Russell, of New-York ; Charles Potter, of Providence.

And subsequently the Board elected Thomas B. Wales, President ; John F. Loring, Treasurer ; Benjamin R. Nichols, Clerk.

In our Journal of the 31st ult. we briefly alluded to the charter which had been granted by the Rhode-Island Legislature for continuing this very important railroad from Massachusetts into the city of Providence, and the contemplated opening of that part of it which had been finished, for immediate use. We had not the pleasure of being present on that occasion, engagements having prevented our acceptance of the agent and engineer's invitation; but from some of the stockholders who went on from this city, we learn that they were met at Providence by the directors of the Company,

agreeably to appointment, and, together with a party of gentlemen from Providence, went over and examined the line of the road from the vicinity of India Point, near Providence, to its termination in Boston, and were highly satisfied with the whole appearance of the work. The Company's depot in Boston appears to have been very judiciously located near the foot of the Common, which is a central and convenient point for travellers, and the large building already erected, with its inclosure, affords ample accommodation for the purposes of the Company at that end of the road. The annual report of the directors, of which we expect shortly to obtain a printed copy, shows the whole work in a very favorable light, and there is every prospect that the entire route from Providence to Boston will be ready within twelve months from this time, for the transportation of passengers and goods. On Wednesday the 4th inst. the road was opened for about ten miles towards Dedham, and the directors, with their friends, in the handsome new cars belonging to the Company, were drawn over this part of the road by a locomotive engine, at the rate of more than twenty miles an hour, with apparent ease, and their return to Boston, after a collation at the Sprague Railroad House, politely tendered by the agent and engineers, was effected at a still more rapid rate,—the company highly gratified by their excursion.

The following named gentlemen were, on the 2d inst., elected directors of the Utica and Schenectady Railroad Company :

Erastus Corning, Nicholas Devereaux, Alfred Munson, Henry Seymour, Nathaniel S. Benton, Tobias A. Stoutsburgh, Alonzo C. Paige, John Townsend, Lewis Benedict, James Porter, James Hooker, John L. Graham, Thomas W. Oleott. [Albany Even. Jour.]

SCHENECTADY AND SARATOGA RAILROAD.—At an election for directors of the Saratoga and Schenectady Railroad Company, held on the 5th instant, the following gentlemen were chosen for the ensuing year: John Townsend, of Albany ; John I. De Graff, of Schenectady, John Clarke, of Saratoga Springs ; George W. Giles, Henry H. Lawrence, John B. Lasala, Bernard Graham, William Wright, John Ferguson, of New-York.

At a subsequent meeting of the directors, the following officers were elected for the ensuing year: Henry H. Lawrence, President ; John Townsend, Vice President ; John Ferguson, Secretary.

The following gentlemen were appointed Inspectors for the next annual election: Moses

Henriques, David Augustus Clarkson, Richard Lawrence. [Albany Evening Journal.]

We trust our correspondent, C. O., will not suspect us of a design to suppress his communication, in consequence of his prediction that a neighboring city will ultimately take the lead of the "City of the Island," or of Gotham. Accident, not design, has had a hand in it.

We now give it a place with pleasure—and, in reply to his query at its commencement, will say that there is reason to apprehend that railroads will be, as certain as that canals have been, made where they will not be profitable to stockholders.

It is, as he says, desirable that the location of important lines of railroad should be made with great care, and with an eye to future, as well as to present, usefulness.

To the Editor of the Railroad Journal.

SIR.—Has it never occurred to you that the capital vested in many railroads and canals is likely, if not exceedingly profitable at the commencement, to be eventually lost, from the roads and canals being superseded by others which may be made afterwards. The great and ultimate object of these improvements is to facilitate exchanges—to cheapen and expedite transportation to and from market—as, between the great coal region, or between the great agricultural west and the best market, whether Philadelphia, New-York, or Boston. Now, if it be assumed that transportation by railroads, or by some better roads, steam being the impelling power, shall supersede, where practicable, *all other modes of locomotion*,—and I do not suspect myself of being alone in the opinion that there is no extravagance in such an assumption, particularly when we notice the progress of things in Europe—it is no more than reasonable to begin to contemplate, and try to foresee and act upon the natural and inevitable results which must follow, and to lay them before the public, that they may be fairly in view, and have proper consideration in the mind of every man, or company, when coming to a determination in regard to any proposed improvement, both as respects its location and the manner in which it shall be completed, or the amount of capital which may be safely invested in it.

The climate and productions of Europe and North America are so nearly alike, that as the state of science and the arts in these quarters of the world continues to come nearer to an equality, it is fair to conclude that the exchanges of merchandise will hardly keep pace with the increasing population of America. Still, as the condition of men is improving, and society

and nations are becoming more intimate and friendly in their relations, and curious in their inquiries, we may suppose that travel for gratification will greatly increase between the two—this is proved by the number and constant increase of fine ships as packets; and it fairly indicates, in connection with the extent to which steamboats are coming into use, and the long voyages which they occasionally make, that the time is not distant when the packet ships will be propelled by steam. No railroad can be laid across the Atlantic. It will be an object to have each of the two ports in Europe and America, for whence most of these ships may be expected to depart for the other, situated conveniently as it respects the interior parts of the country, and as near together as may be. The wearisomeness of a long sea voyage will render these considerations indispensable, and may lead to some changes not now much thought of.

But to leave this part of the subject for a while, and dwell more particularly on our own United States.

To attain the greatest rapidity of motion will always be an object of controlling importance, and therefore level regions will be greatly desirable for the location of the principal thoroughfares. The intercourse and exchanges between the north and the south must increase vastly beyond all precedent, and probably beyond all present anticipation of the most enthusiastic, for as speed of transportation increases, and the cost is reduced, the productions of each of the various climates will be vastly more consumed in the other climates; and the assumption is, that transportation by land will gradually take the place of water navigation, first, for persons travelling, and then for merchandise, and particularly on account of its expedition, safety, and regularity. This consideration is made stronger, from the fact that much of the interior, and the finest portion of North America, and that which will soon be the most productive and most densely settled, and of course require the greatest exchanges of this character, is already as near by land to the most important productions of southern climates, as it is to our eastern commercial ports. It is not too early, then, to begin the inquiry, where shall be our principal and leading roads? for it is plain that they are not yet located, and that they cannot be determined on judiciously without the most grand and enlarged views, and the most extensive and accurate surveys.

Without attempting to speak of details, which can of course be only determined by such surveys, it is pertinent, and may be profitable to notice, that the formation of the country and the condition and wants of the citizens, present and future, clearly indicate that the road already commenced at Albany must be continued without any regard to navigable waters, on the best and most level ground westward, indefinitely; That another road from Norfolk, or perhaps from Boston, must proceed southwardly over the level region, near the coast all the way, to some harbor where a town is yet to spring up near the south cape of East Florida, from whence there will be a busy steamboat intercourse with Havana; That a branch of this road will proceed, say from Savannah, to New-Orleans, and thence into Texas, and onward, onward; That another principal road will be from this new city on the Cape of Florida, into the great valley of the Mississippi. This brings me back to the thoughts which put me upon this essay, the errors likely to be made in the location of railroads. I perceive some are designed to communicate only between one inland water navigation and another. These may prosper long enough to refund their cost; but the day is not distant when they will have comparatively little value.

Finally, as your journal is likely to be extensively preserved for future reading and reference, and as I am an old man, and shall hardly trouble you many times more, I ask of you the further favor to record a few prophecies.

First, fresh water navigation, including that

of the Mississippi and all its tributaries, will be discontinued, probably within twenty years.

Secondly, New-Orleans, and all cities in unhealthy situations, will greatly decline, and new cities and towns spring up in more healthful and advantageous situations, and that the queen of these will be somewhere at a point not yet thought of in the great valley.

And thirdly, that either Boston or Halifax is destined to take the sceptre from the highly favored city of the island.

And, to conclude, again I would most respectfully hint to the men of Boston (and for this I hope they will remember my children) two things—first, to spare no pains, nor grudge any capital, either in the location or construction of their westward and southward railroads; and secondly, to turn their attention to European steam packets on a large scale. I beg pardon: Boston folks need no hint from me on their own affairs.

C. O.

Deep Creek, Sept. 5, 1833.

On a General Mean of computing Descriptive Data of Ellipsoidal Arches, with a new Theorem, and Mechanical Description of their Working Drafts. By W. M. CUSHMAN, C. E. To the Editor of the American Railroad Journal, &c.

SIR.—I am induced to send for the Journal the following theorem, and incidental observations, relating to the means of describing the working drafts of ellipsoidal arches, in consequence of the solution of that problem having frequently occupied the attention of the scientific engineer; and still being, I conceive, a desideratum: at least, general expressions possessing the simplicity desirable and even requisite for practical purposes, and furnishing rigorous results, have not yet been investigated for obtaining the pre-requisites to the description of this curve—which is perhaps the most useful and important of any which are used in the whole range of arcuation.

Although the problem is well known to be susceptible of rigorous solution, the length of the process of computation has been deemed so formidable, as to induce its supercedure by mechanical processes: the distinguished Corps de Ponts et Chaussees recommend a graphic solution. This solution is objectionable from its obvious want of rigor—a sufficient objection, I apprehend, when it is considered that, in far the greater number of instances, does this curve find its application to structures involving an expenditure of thousands, and having their elegance and *stability* materially affected thereby. The process which they would have chosen in the computation, it would seem, was, and must have been, quite formidable, to have induced this justly eminent Corps to recommend this course; but with the assistance of the theorem I am about to advance, a perfect estimation of all the pre-requisites for the description of this curve, for the greatest number of centres desirable in practice, and for arches of the largest dimensions, may be achieved in a lapse of an hour or two—an interval of time which I fancy the practical engineer will admit it is often necessary to exceed in the adjustment of much more trivial matters.

The peculiar appositeness of the semi-ellipsis, both in regard to equilibration and feasibility, when compared with the full centre, or its segment, or that of the ellipsis, as well as its elegance, will secure its adoption in preference in arches of considerable span, which are not liable to the condition of sustaining much pressure at the crown, or whose situation is not peculiarly favored by nature, at most of the localities which fall within the province of the civil engineer; for, in many places, the full centre, apart from its weakness, is absolutely inadmissible; and the segment of a circle can seldom be fortified with abutments sufficiently strong and massive to resist its stupendous thrust.

The ellipsoidal arch, or l'anse de panier, which answers the conditions of the ellipsis, has superseded it, and derives its importance chiefly from the fact of its mechanical description being

executed with great ease, and because it presents a ready mode of making the drafts for the voûssures—of which it is a rigorous condition that the joints be normal to the curve.

It may perhaps be unnecessary to give a demonstration in detail: the mathematical reader, with the aid of a diagram, will readily comprehend and trace its successive steps. To avoid indetermination, it is however a necessary condition, that the transverse axis be the locus of the centre of the least arc, and the prolongation of the semi-conjugate be the locus of the centre of the greatest arc; that the distances from these two centres to the common centre bear a given ratio, as $\frac{m}{n}$; that the subdivisions

of these two lines, made by the intersections of the radii and their prolongations, bear, among themselves, a given ratio. It has further been conventionally determined that, in general, the subdivisions of m be in the ratio of the natural numbers 1, 2, 3, 4, &c., commencing at the least arc, and those of n be equal among themselves.

Let the subdivisions, or rather intersections, of m , by the radii, commencing with the least arc, be designated by $b, c, d, &c.$, then the proposition is,—to find upon the transverse axis the position of the point b .

If the vertex be taken as the origin, the general equation of the abscissa for b will be

$$x = \frac{\lambda \cdot m - \gamma \cdot (S - n)}{\gamma - \lambda} \quad \dots \quad (1)$$

in which, a = abscissa; λ = semi-minor axis; γ = semi-major axis; and S = sum of the sides of the polygon formed by lines joining the centres, $b, C, D, E, &c.$

It is plain, from inspection, that when S is known, the whole may be considered as known. The quantity S is that which it has been proposed to eliminate by construction, on account of the length and tedium of the process of computation.

If, however, $b', c', d', e', &c.$, represent the lesser angles formed at $b, c, d, e, &c.$, by the radii of curvature with m , and $C', D', E', F', &c.$, be the angular values of each sector at $C, D, E, F, &c.$, which are equal to the differences of the former set of angles, taken in order, then I affirm that, in general, the subsequent theorem is true, viz.

$$S = \frac{1 \cdot \sin. c'}{\sin. C'} - \frac{1 \cdot \sin. b'}{\sin. C'} + \frac{2 \cdot \sin. d'}{\sin. D'} - \frac{2 \cdot \sin. c'}{\sin. D'} + \frac{3 \cdot \sin. e'}{\sin. E'} - \frac{3 \cdot \sin. d'}{\sin. E'} + \frac{4 \cdot \sin. f'}{\sin. F'} - \frac{4 \cdot \sin. e'}{\sin. F'} + \frac{5 \cdot \sin. g'}{\sin. G'}, \quad \&c. \quad \dots \quad (2)$$

an expression which, following a plain mathematical law, might obviously be extended, by inspection, to resolve S for an indefinite number of centres. It is a remarkable feature of this expression, that the law which it obeys is so simple and obvious as to be easily retained by the memory, and consequently the operator has only to write it out and apply the tables at any time occasion may require its application.

It is thus observable that the 1st term = S , for 3 centres; the algebraic sum of the 3 first terms = S , for 5 centres; of the 5 first terms = S , for 7 centres; and, in general, if v = number of centres, $(v-2)$ terms = S .

Also, if $R 1, R 2, R 3, &c.$ be the radii of each sector respectively, then $x = R 1$, = least radius; $x + 1$ term = $R 2$; $x + 3$ terms = $R 3$; \dots $x + (v-2)$ terms = $x + S =$

$R \frac{(v+1)}{2}$ = greatest radius of curvature. It is possible to construct the curve without knowing any radius but the greatest; but they, as well as the negative terms taken separately, will be found serviceable, as checks, in fixing the position of the centres, and are estimated

without any additional trouble; since being parts of S , it is only necessary to preserve the results of the separate terms in order to obtain them. Thus does a single simple expression afford all the data for tracing this important curve.

Although speculatively the expression might be simplified, in bringing the pairs of adjacent terms affected by contrary signs, to a common denominator, yet it would not be practically so, for it would not then be united to logarithmic computation, for which operation it has now the most convenient form. If the calculation be skilfully conducted, its valuation will be found brief and comprehensive. For eleven centres, the logs. of all the angles may be found by 10 references to the tables; and if the arithmetic complements of the logs. of their differences be taken, as also the logs. of 1, 2, . . . 5, the simple addition of these logs. agreeably to the prescribed formula, with the summing of the natural numbers answering thereto, will be the only subsequent operations.

Thus, if the span of arch be 120 feet, its rise 40 feet, the numbers of centres 11, and it be determined that the ratio $\frac{m}{n} = \frac{1}{3}$, then will the position of b be indicated by the division of the semi-span in the ratio 15 : 18.71, or at 26.7 feet from the common centre; and $R \frac{(v+1)}{2} = 120$ feet = span.

Whence it is inferable, that the anse de panier of 11 centres, having the ratios $\frac{m}{n} & \frac{\lambda}{2\gamma}$ each $= \frac{1}{3}$, has its greatest radius equal to the span, or that $R \frac{(v-1)}{2} = 2\lambda$; and thence may it be constructed without any calculation, simply from the known span and rise.

Its Mechanical Description.—It has not, hitherto, I believe, been remarked that the anse de panier is an *involute*, the evolute of which and locus of the centres of curvature is the polygon b , C, D, E, &c., and x the radius of curvature for the vertex. Hence, the most elegant, ready, and perhaps the best, mode of describing it mechanically, after the requisite lines have been obtained as above, is,—to fix firmly, in the plane of the draft, pins at the vertices, and at each of the central points, upon either side of n , to attach a small but firm flexible wire to the centre lying upon the conjugate produced. After plying it about the polygon to b , and increasing its length by x , which will extend it to the vertex—its evolvement will trace one half. In plying the wire upon the polygon lying upon the other side of n , the other half may be traced.

Or, take the wire $= R \frac{(v+1)}{2}$, and sweeping from the crown, ply the wire about the polygon as before, for one half; returning to the crown, ply it about the symmetrical polygon on the other side of n , for the other half.

As the wire in these movements is always in the direction of the radius of curvature, or the normal, the joints are readily constructed in this mode of description.

Very respectfully,

W. M. CUSHMAN, C. E.

Albany, May 29, 1834.

RAILROAD ON THE BANKS OF THE RHINE.—By the Hague Journal, we learn that the Prince of Orange had returned on the 27th from the head-quarters of the army to the Hague, and thus, we believe, has put an end to the apprehensions which had been entertained by the Belgians that his presence there was the forerunner of an attack. M. Dedel, also, had arrived from London at the Hague. We see that the Dutch are making a rapid progress with steam-carriages, and railroads. Messrs. Stratingh and Becker have tried a steam-carriage on the common road at Groningen, and it has run through the town without inconvenience. This was the first experiment. It is expected that the machine will be improved. A railroad

is to be laid down from Amsterdam, on the right bank of the Rhine, passing through Dusseldorf and Elberfeld to Duits, opposite to the harbor of Cologne, and preparations are making for carrying it into effect. The line is marked out, and Prussia is disposed to agree to the undertaking, the principal author of which is Lieutenant Colonel Bäke. The capital necessary is estimated at eleven million florins, the annual expense at 70,000 florins, and the receipt at 1,300,000 florins. Such prospects are far more useful than those marchings and countermarchings of troops of which we have of late heard so much.—[London paper.]

THE NEW SCOTCH STEAM SHIP.—Yesterday considerable interest was created on the river by the arrival of the new and splendid steamship Dundee, from Scotland. She entered the pool with the colors of all nations flying from her rigging, about half-past ten o'clock, and at 11 o'clock was safely moored at the London Dock buoy, opposite the Wapping entrance. Three cheers greeted her first arrival in the Thames from the people in waiting. This large steamer measures 180 feet in length on the deck, and 51 feet in breadth over the paddles, makes up 107 berths for passengers, and her chief cabin, which is fitted up in a most splendid style, contains a library of books, and is capable of conveniently accommodating 100 passengers at dinner. Her engines are of 300 horse power, and are from the manufactory of Mr. Robert Napier. The Dundee was built at Port Glasgow, under the superintendence of Mr. John Wood, and made her first passage to London in 38 hours and a half, with a strong head wind against her more than two thirds of the voyage. With the exception of the Monarch, Edinburgh steam-ship, launched last summer, she is said to be the largest steamer yet built, and she will shortly be followed by the Perth, a twin vessel of the same size, belonging to the same Company.—[Engl. pap.]

MR. BETHUNE'S STEAMER.—We have examined the model of the boat now placed at the Exchange. It resembles, in the build of its hull, Mr. Burden's boat: but instead of two barrels, it has three, and the wheels revolve on each side of the middle barrel. The draft of water is very little, and undoubtedly the speed of the boat would be great. It has also some advantages over the other boats, in the arrangements above deck, offering a covered walk of 412 feet, &c. Upon the whole, Mr. Bethune's exertions deserve encouragement, and may lead to some real improvements. With the present overdone business in steamers, and the general depression of trade, it could hardly be expected that large investments would be made in a new scheme of this kind. What we want most, and what might afford some prospect of success, would be small boats, built as cheaply as possible, for passengers alone, and having great speed. Such improved boats run in several parts of Great Britain, and particularly on the Clyde in Scotland. Under present circumstances, such a speculation would also be very uncertain. But ultimately, our freight and passage steamers must be replaced by those for passage only; without, indeed, railroads take the place of all descriptions of water carriage, the latter being certainly less rapid and more expensive.

We copy Mr. Bethune's own statement of the dimensions and properties of his model:

Dimensions of the Model.—(Scale, $\frac{1}{4}$ inch to a foot.)—Centre tube, length 220 feet, side tubes, ed. 190, diameter 12 feet ed. at centre, and 2 feet at the ends; extreme length on deck, 244 feet; extreme breadth in centre, 72 feet; lower cabin, length 192 feet, centre breadth of the same 52, stern breadth 37; upper cabin, length 182, centre breadth 40, stern do. 29; height of both cabins, 7½ feet; lower wings on deck, 10 feet, outside of cabin; fender outside of tubes, 5 feet on each side; upper piazza, breadth 8 feet, circumference or length of walk round which is 412 feet; promenade deck,

length 194 feet; spaces between the tubes, 13 feet; proposed diameter of two water wheels, 27 feet; total weight of the three tubes, superstructure, and two engines of 50 horse power each, on board, 275½ tons, which will displace 9875 cubic feet of water. Draught of water, when light, 3 feet 9 inches; do. with 1500 passengers on board, 4 feet 6 inches. Cargo required to sink the tubes to their centre, or to six feet draught of water, 336 tons.—[Quebec Gazette.]

We extract the following interesting account of the first application of steam to vessels, from the April number of the Military and Naval Magazine. The statement appears to be well vouched for, and there is little doubt of its correctness.

STEAM NAVIGATION.—It appears from a late publication, a very valuable one by the by, “Navarette's Collection of Spanish Voyages and Discoveries,” that the first known experiment of propelling a vessel by steam was made at Barcelona, more than eighty-five years before the idea of procuring motion by it was first promulgated by Brancas, in Italy—more than a century before this agent was applied to any useful purpose by the Marquis of Worcester, in England—and nearly three centuries before our own Fulton, adapting and combining the invention of a number of contemporary mechanics, successfully solved the same wonderful problem. Curious as this fact may appear, it is completely established by various documents lately found in the archives of Salamanca; and is so circumstantially stated as to be incontrovertible. From these it appears that, in 1543, Blasco de Garay, a sea officer, offered to exhibit before the emperor Charles V., a machine by means of which a vessel should be made to move without the assistance of sail or oars. Though the proposal seemed extravagant, yet the man appeared to be so confident of success that the emperor ordered a commission to witness and report upon the experiment. It consisted of Don Enrique de Toledo, Don Pedro Cardona, the Treasurer Ravago, the Vice Chancellor Gralla, and many experienced seamen. The experiment was made on the 17th day of June, 1543, on board a vessel called “Trinidad,” of two hundred barrels burden, which had lately arrived, laden with wheat, from Colibre. At a given moment this vessel was seen to move forward and turn about at pleasure, without sail or oar, or human agency, and without any visible mechanism except a huge boiler of hot water, and a complicated combination of wheels and paddles. The harbor of Barcelona resounded with plaudits, and the commissioners, who shared in the general enthusiasm, all made favorable reports to the emperor, except the treasurer Ravago. This man, from some unknown cause, was prejudiced against the inventor and his machine. He took great pains to undervalue it, stating, amongst other objections, that it could be of little use, since it only propelled a vessel two leagues in two hours—that it must be vastly expensive, as it was very complicated, and that there was great danger of the boiler's bursting frequently. The experiment over, Garay collected his machinery, and having deposited the wooden part in the royal arsenal, carried the remainder to his own house.

In my reading I have somewhere met with the above, which you may deem worthy of a place in your Magazine. The details may be relied on, as I made a note of them a. the time in the JOURNAL OF A REEFER.

METEOROLOGICAL RECORD, KEPT AT AVOYILLE FERRY, RED RIVER, LOU.
For the month of April, 1834—(Lat. 31.10 N., Long. 91.59 W. nearly.)

Date.	Thermometer.			Wind.	Weather, Remarks, &c.
	Morn'g.	Noon.	Night.		
1834.					
April 1	64	78	76	S	clear—ev'ng cl'dy—planted sweet potatoes—R. Riv. rising, below h. w. m.
" 2	68	83	62	calm	" — " severe storm, and rain from north—R. Riv. at a stand [2 f. 9].
" 3	58	61	59	"	cloudy—light showers all day—night clear
" 4	50	72	66	"	clear all day and night
" 5	54	72	65	"	" "
" 6	49	71	63	"	" "
" 7	48	74	70	"	" " —planted S. E. field corn
" 8	52	72	68	S	cloudy all day—Red River falling
" 9	65	71	70	"	" rain and heavy thunder from 11 A. M. and all night
" 10	60	76	72	calm	clear
" 11	64	74	64	"	"
" 12	54	75	65	"	"
" 13	56	68	62	N	cloudy—rain in the morning—evening clear
" 14	57	72	64	calm	clear all day
" 15	54	74	70	"	"
" 16	64	80	70	S	cloudy—rain in the morning—clear day
" 17	62	79	76	"	clear all day—commenced mowing red clover field for hay
" 18	70	82	68	"	" evening severe gale—rain and thunder from south-west
" 19	64	74	74	calm	cloudy—eveling clear—Irish potatoes, new crop, large and fine
" 20	65	80	72	S	foggy morning—clear day
" 21	70	80	76	S—high	cloudy all day
" 22	73	80	78	"	" " —heavy thunder and rain all night
" 23	66	81	76	S—light	" rain in morning—clear day—night calm and cloudy
" 24	70	72	69	N W	" all day—rain all night, and calm
" 25	63	63	64	N E to N	" rain and showers all day and night
" 26	55	60	59	calm	clear—foggy morning—snap beans and peas for use
" 27	57	74	70	"	" all day
" 28	56	72	69	"	" " —planted leveed field over the river.
" 29	55	80	71	"	" "
" 30	69	84	73	S	" "

Red River fell this month 1 foot 2 inches—below high water, 3 feet 11 inches.

AVOYILLE FERRY, on Red River, La. }
May 7, 1834. }

To the Editor of the American Railroad Journal.

SIR.—You herewith receive the meteorological table for the month of April, 1834, regularly entered. I regret to see in the Railroad Journal, vol. 3, No. 12, that you have not received my letter of 3d January last. I now inclose you a copy of that; also, extracts from 6th December last: as they were both sent by the same mail I presume they shared the same fate. Copies of the meteorological tables for November and December are also inclosed.

Most respectfully, your obedient servant,
P. G. V.

On the Dip and Declination of the Needle. By
P. G. V. To the Editor of the Railroad
Journal.

Avoyelle Ferry, May 7, 1834.

DEAR SIR.—The application of a manufacturer of compasses, in Birmingham, (Railroad Journal, Vol. III, No. 11, calling for information of the dip and declination of the needle, and its variations, I think a very important inquiry. In my letter to you, (I think in November, 1832, no copy before me,) I made a similar request, which was, no doubt, overlooked, or thought chimerical. I now wish to add to the manufacturer's inquiry, that the latitude and longitude of the different places be given, and say take the variation from June to December in each year, throughout America, and bring them together: in a few years that long sought problem will be settled. With the observations and actual experiments of Capt. Ross, of the variation of the Magnetic Needle, every practical surveyor in the United States can, at any time, give the variation of the needle, and mariners at all times and places wherever they may happen to be.

I have made these hasty remarks since closing my letter of to-day, to give you some idea of my opinions, that you may, if you choose, make some remarks from them.

Your friend and servant,
P. G. V.

We ask the attention of those of our readers who have the means and the inclination to investigate the subject of the above communication. The result of their inquiries, when attained, will always find a place in the Journal and Mechanics' Magazine. P. G. V. will please accept our thanks especially for his duplicates.

We are informed that the speed of the locomotive, on several trips during the present week, has been a mile in two minutes. The distance on which the cars are now running is about 20 miles, and is traversed by the locomotive both ways, including all stoppages, in three hours and a half.

The responsible department of engineer is ably sustained by Mr. Lawson, an English gentleman, under whose superintendence the locomotive has been put in operation, and by whom it is now conducted. It may be deemed fortunate that the Company were able to procure the services of a gentleman to fill this essential station, who combines both the mechanical and practical knowledge of the art.

It has been suggested to us that persons should be cautioned from travelling on the track of the railroad. Indeed, from personal observation, we are convinced that such travelling is attended with considerable inconvenience, if not actual danger; horses become frightened when passing the locomotive, and sometimes quite unmanageable.—[North Alabamian.]

Delaware and Raritan Canal.—We learn that the water has been let into the Delaware and Raritan Canal, and that in a few weeks it will be in full operation. On Tuesday evening last, the Directors made up a party, and took an excursion a few miles upon its waters. The Canal commences in front of the town of New Brunswick, and communicates with the Delaware at Bordentown. It is about 43 miles long, 75 feet wide, and 7 feet deep. It has two tow paths, and is so constructed as to admit the passage of sloops of 50 to 100 tons burden, affording a complete and safe water communication between the two cities of New York and Philadelphia, greatly facilitating the conveyance of merchandise, and producing a very considerable saving in the amount of insurance.

By an inscription on a marble tablet which is inserted in the stone work of the lock at the city of New Brunswick, it appears that the Canal was commenced in January, 1831, and completed in May, 1834. It has 14 locks—13 are 24 by 110 feet,—the other is still larger. The feeder which supplies the Western division, is 24 miles long.—[Jour. Com.]

Proceedings of the Royal Institution, London, Feb. 14, 1834—Evening Meeting. [From the London Repertory of Arts, &c.]

Dr. Faraday gave a conversation on Ericsson's Caloric Engine. He commenced by stating that he felt himself placed in a position of considerable difficulty, in bringing forward a subject on which such difference of opinion existed; yet the object of this institution was

the philosophy of a question, not to decide on the probable result in a mercantile point of view, of any invention or engine which might be brought forward, and in explaining the principles of Captain Ericsson's invention, he trusted that he should not be held responsible for the correctness of the various propositions which he would have to make; at the same time, he was bound to state that, prior to the construction of the engine, one part of the invention was submitted to his opinion, and he had reported favorably; and this was the possibility of transferring the heat contained in a current of air passing in one direction to another current of air passing in an opposite direction (separated only by metallic surfaces); but how far this might be usefully and economically employed in obtaining an engine of power, it was not for him to determine; this question would be brought to a fair test when an engine of 50 horse power, now constructing, shall be set to work. Dr. Faraday then described the manner of transferring heat from one current of air to another by working models, and afterwards, by the aid of working diagrams, he explained the construction of Captain Ericsson's engine. Our having given a full account of this engine at page 42 of the present volume,* will render it unnecessary again to describe the principles on which this invention is proposed to work. Dr. Faraday having explained the various bearings of the question, concluded by observing that he was bound, in justice to his own character, to make a remark, which he regretted the more that it was possible and probable, had he been able to see Captain Ericsson prior to his entering into this explanation, he would have been able to remove a doubt and difficulty which he (Dr. Faraday) must confess he could not clear up to his satisfaction; this had been prevented by the serious illness of Capt. Ericsson. What he referred to was, that he could not clearly see how the difference of pressure, stated by the inventor to exist, could be maintained in the different parts of the apparatus.

INSTITUTION OF CIVIL ENGINEERS.—The following are the subjects which have been under discussion at the Tuesday evening meetings:

" What are the advantages to be derived from the application of undulating railroads?"

After a full discussion (lasting two evenings), in which many of our best and most talented men took part, this question was dismissed with a general expression, that there were no advantages to be derived, but, on the contrary, a decided loss.

" Heating power of coal and other kinds of fuel: Have any experiments been made, or data collected, from which can be calculated the number of cubic feet of atmospheric air which one pound of good Newcastle coal will raise 1° of Fahrenheit?"

This subject has called forward considerable information, but nothing final has been determined on; but so far as we are able to judge, Tredgold's calculations may be depended on for their correctness.

" Velocity of currents of air: Is there any instrument for measuring correctly the velocity of air in motion; and if so, upon what principle does its action depend?"

Mr. Barwise explained an instrument constructed by him for this purpose, and promised to construct one for the institution.

The following are the subjects which stand next for discussion:

" Grouting masonry and brickwork: The application of it—how and when it ought to be used—the materials for it."

" The worm in the timber of piles, &c.: Driven in salt water, and the means of preventing it."

" Lock gates and sluices: With any late improvements in the materials or construction."

" Steam: Any substitute for it—Ericsson's caloric engine."

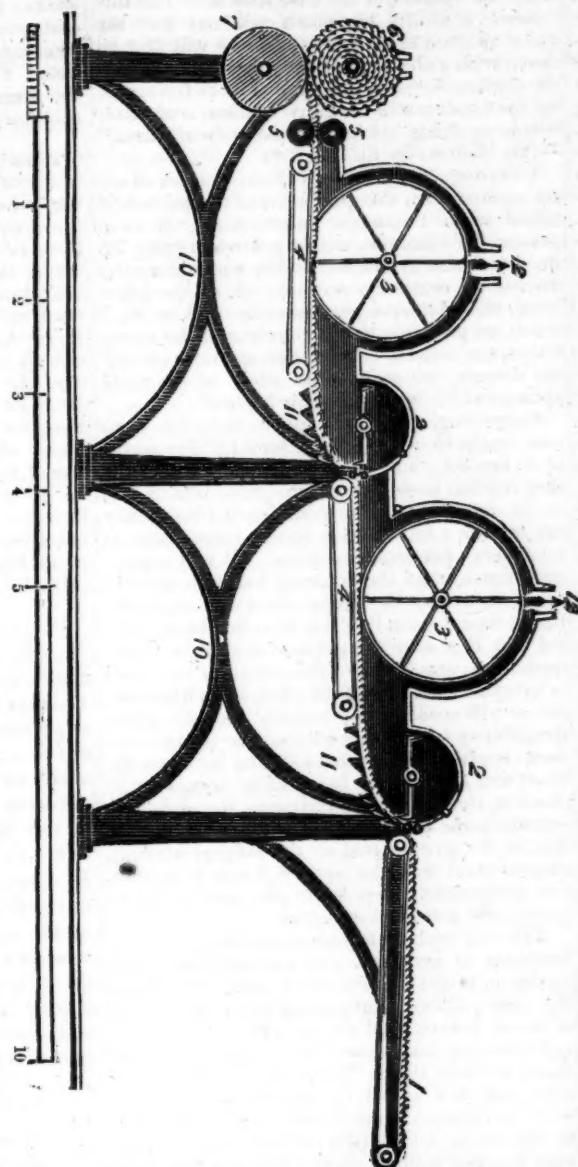
* For notices of this engine, see pages 147 and 194, vol. iii., of this Journal.

View of a Cotton Scutching and Lapping Engine, on the most improved plan, the first one invented, by N. SNODGRASS, of Glasgow, in 1806. [Communicated by the Inventor for the Mechanics' Magazine and Register of Inventions and Improvements.]

EXPLANATION.

- 1, 1, Feeding table, with cotton weighed and spread upon it.
- 2, 2, Scutcher cylinders, 11 inches diameter, to run 1500 revolutions per minute, with covers of iron.
- 3, 3, Wire gauze cylinders, with covers, to spread the cotton, and let off the air generated by the scutcher cylinders.
- 4, 4, Feeding cloths and moving wooden rollers, to carry the cotton under the wire cylinders from scutcher to scutcher.
- 5, 5, Two cast iron rollers, 4 inches diameter, to compress the cotton before it is lapped up on roller No. 6, for the cards.
- 6, Cotton roller, for the carding engine.
- 7, An iron or wooden cylinder, about 15 inches diameter, under cotton roller, for winding up the same.
- 10, 10, A view of one side of the cast iron framing.
- 11, 11, Triangle ribbed heck, for extracting the gins, &c. from the cotton, and allowed in Europe to be an important part of the scutching engine.
- 12, 12, Air apertures, for letting the generated air escape through the gauze wire covered cylinders.

..... This represents the cotton in process.



New-York, May 14, 1834.

TO THE EDITOR:

Sir.—A few weeks ago I took the liberty of sending you a plan (not mine) for blasting iron ore furnaces with hot air,* successfully in use in Scotland, whereby thirty-three per cent. of fuel is said to be saved; also, a plan of mine for heating factories on the best principles, by steam: in hopes these might benefit this rising country. From the same motive, I again send you another plan of a scutching (batting) machine, for opening, cleaning, and, in one operation, preparing it to be applied to the carding engines; the first one invented by me, in Messrs. G. Houston & Co.'s large spinning factories in the town of Johnstone, Scotland, in 1806, and successfully introduced to the spinning trade in Britain, and, I believe, never before in any publication.

The section plan annexed is drawn on a necessarily small scale, to suit the limits of magazines, and is only calculated to suit the understanding of the first rate cotton machine makers, such as Mr. Rodgers, &c. at Paterson. The plan shows all the essential working parts: the various complicated movements, &c. will be easily arranged by these gentlemen, and almost impossible to be exhibited in yours, or any other similar publication. All that I have to observe, in addition to the explanation accompanying the drawing, for the practical working of the machine, in cotton factories, is, that this machine should be made the same breadth of the carding engines, so that the finished lap, No. 6, would suit on applying it. Also, the first feeding cloth, Nos. 1, 1, should be divided into such parts as the manager of the work may think proper, then causing the person that attends the machine to weigh a certain weight of cotton, and carefully spread that weight on each of these parts, which has the effect of enabling the small scutching cylinders to open the cotton more regularly; and, finally, finish the lap, for carding, in the

most perfect manner, doing as much work, and better, with one person, than if more were employed, which is the case with those cotton factories I have been permitted to examine in this country. Also, from twenty-eight years' experience, I decidedly recommend, in no case, to make the scutcher cylinders more than twelve inches in diameter, and only with two blades. In the mean time, I am, Sir, yours, &c.,

NEIL SNODGRASS, 87 Pearl st.

THE NEW PIN.—There are few things which more strikingly exemplify the high point of civilization to which this country has attained than the amount of capital continually expended, the inventive talent exercised, and the powerful agencies employed, as the remedy of exceedingly small evils, and the attainment of equally minute objects of convenience. This remark cannot perhaps find a better illustration than in "The New Pin with an Immoveable Solid Head." The defect in the old pin, which it is the object of the present improvement to remedy, is that the head of the pin being separately spun and then put on, was liable to be detached by the pressure of the thumb. The principle of the improvement consists in this: that the head being formed of the

same piece with the body of the pin, the inconvenience attending its slipping is effectually prevented. This is the minute improvement in a minute article, the accomplishment of which has cost the patentees several years of attentive application, and the expenditure of a large capital, according to their own statement, which, when the extent and character of the machinery employed are considered, there can be no reason to doubt. At the same time, it must be taken in connection with this improvement, that the patent pin is altogether produced by machinery, instead of partly by hand processes. "The Patent Solid-headed Pin Works" are situated about a mile from Stroud, on the Bath and Birmingham road. The principal building consists of five floors, each of them one hundred feet in length, and completely filled with machinery. A large iron water-wheel, on which a stream acts with a power equal to that of forty horses, gives motion to all the mechanical apparatus, which is so ingeniously constructed as to perform every essential operation for converting a coil of wire into the perfect pin with scarcely any noise and little apparent effort. Upon the old system, this comparatively insignificant article had to go through fifteen or sixteen hands before it was finished; but this curious machine effects the whole without manual assistance, or any extraneous aid whatever; for the wire being placed on a reel, and the machine set in motion, all the mechanical combinations, so numerous and dissimilar in their movements, are simultaneously performing their various functions with a rapidity and precision truly surprising. While one portion of the apparatus is drawing out and straightening the wire, and cutting it off at the required length, another combination is pointing and polishing the pin, and another compressing a portion of the wire into dies to form a perfect and neat round solid head. The various movements are completely at command, and susceptible of instant alteration and adjustment to pins of any length, and heads of any form, while the machine is working at its ordinary speed. Each machine operates on four wires at once, and from forty to fifty pins are with facility produced in a minute by each of the 100 machines which are completed, and in constant operation at the works. As a more particular detail of the process would not be well understood without engravings, we shall only further state that the works, with the present number of machines, are capable of producing upwards of two tons of pins weekly, or, stating the amount numerically, 3,240,000 pins daily, 19,440,000 weekly, supposing all the machines to be in operation twelve hours daily. It is stated that altogether twenty millions of pins are daily manufactured in this country for home consumption and for the foreign market.—[Penny Magazine.]

A new locomotive of great power and masterly machinery has been constructed for the Newcastle and Frenchtown Railroad, by Mr. E. A. G. Young, of Norfolk. The Beacon states that on the first trial of the engine, notwithstanding the stiffness of the machinery, and without any headway being given to it, it ascended the inclined plane at Frenchtown, (the grade of which is 42 feet to the mile,) with a load of 55 tons, at the rate of 12 miles per hour.—[Balt. American.]

The receipts of the Charleston rail-road for the month of May amounted to \$18,300—passage money \$10,070—freight \$8230.

* Which will be inserted shortly.—[ED. M. M.]

ILLUMINATED PRINTING.—In many of the old printed books, the initial letters, and occasionally other parts, were printed in red. This was done by two workmen at press, and was an imitation of the earlier fashion of *illuminating* manuscripts. The practice is still followed in some almanacs, the saints' days and holy-days being "red-letter days." Some ingenious contrivances have been devised for working in various colors; and a few years since, a curious book was written and published on the subject by Mr. Savage. Still more recently, printing in gold and other metals has been practised. This is done by printing with a sort of size, and afterwards applying the metal leaf. Some very handsome specimens of this have been produced by Messrs. Howlett and Brimmer, of London; but, of course, the process is too costly and too tedious ever to enter into competition with common printing, or to be used for other than purposes of luxury.

VALUABLE DISCOVERY IN THE FINE ARTS.—Mr. Mudie, well known as an able literary compiler, has brought out a popular work on "the feathered tribes of the British Island," in which, amongst other attractive features, the vignettes on the title pages are novelties, being the first successful specimen (says Mr. Mudie) of what may be called *Polychromatic* printing, or printing in many colors from wooden blocks.

"By this method," he adds, "every shade of color, every breath of tint, every delicacy of hatching, and every degree of evanescence in the outline, can be obtained"; and fifty thousand fac similes of a painting may be produced with perfect uniformity and at moderate expense. The advantages to books, of which a large number is to be sold, will be very great, not only as removing the cost of tinging by hand, which is the same for the last thousand as the first, but by making the copies more alike and more durable, and rising more above the reach of the ignoble pecus of imitators. In these vignettes, Mr. Baxter had no colored copy but the birds, which are from nature. I made him work from mere scratches in outline, in order to test his metal; and I feel confident that the public will agree with me in thinking it sterling. In carrying this very beautiful branch of the typographical art successfully into effect, Mr. B. has, I believe, completed what was the last project of the great Bewick, but which that truly original and admirable genius did not live to accomplish."

THE PULSE.—Every one knows that among the numerous inquiries and examinations which precede the prescription of a careful physician, the state of the pulse is never omitted; yet, as it is probable that few of our readers are acquainted with the reasons for this inquiry, or, what is the same thing, with the facts to be learned from it, we think it may not be uninteresting if we enumerate some of the more prominent ones.

It is almost unnecessary to premise that by the pulse is meant the beat of an artery, and that the one commonly chosen for examination is the radial artery, which beats at the wrist. The first point generally attended to is the number of the beats; and since in this, as in all other medical questions, it is necessary to be acquainted with the state of health, in order to recognize any deviation from it, we must mention the ordinary frequency of the pulse at different ages. In the new-born infant, it is from 130 to 140 in a minute; but decreases in frequency as life advances; so that, in a middle-aged adult in perfect health, it is from 72 to 75. In the decline of life, it is slower than this, and falls to about 60. It is obvious that if we could suppose a practitioner ignorant of these plain facts, he would be liable to make the most absurd blunders, and might imagine a boy of ten to be laboring under some grievous disease, because his pulse had not the slow sobriety of his grandfather's. A more likely error is to mistake the influence of some temporary cause for the effect of a more permanent disease: thus,

in a nervous patient, the doctor's knock at the door will quicken the pulse some 15 or 20 beats in a minute. This fact did not escape the notice of the sagacious Celsus, who says, "The pulse will be altered by the approach of the physician, and the anxiety of the patient doubting what his opinion of the case may be. For this reason, a skilful physician will not feel the pulse as soon as he comes; but he will first sit down with a cheerful countenance, and ask how the patient is,—soothing him, if he be timorous, by the kindness of his conversation, and afterwards applying his hand to the patient's arm."

—(De Medicis, lib. iii. cap. 7.*)

Granting, however, that these sources of error are avoided, the quickness of the pulse will afford most important information. If in a person, for example, whose pulse is usually 72, the beats rise in number to 98, some alarming disease is certainly present; or, on the other hand, should it have permanently sunk to 50, it is but too probable that the source of the circulation, the heart itself, is laboring under incurable disease, or that some other of the great springs of life is irretrievably injured.

Supposing, again, the pulse to be 72, each beat ought to occur at an interval of five-sixths of a second; but should any deviation from this rhythm be perceived, the pulse is then said to be irregular. The varieties of irregularity are infinite; but there is one so remarkable as to deserve particular mention. It will happen sometimes that the interval between the two beats is so much longer than was expected, that it would seem that one beat had been omitted: in this case the pulse is said to be an intermittent one. When the action of the heart is irregular, the beat of the pulse is so likewise; but it will occasionally happen that the latter irregularity takes place without the former one, from some morbid cause existing between the heart and the wrist. It is hardly necessary to observe, that, in all doubtful cases, the physician examines the pulsation of the heart as well as that of the wrist,—just as the diligent student, discontented with the narrow limits of provincial information, repairs to the metropolis to pursue his scientific inquiries.

The strength or feebleness of the pulse, its hardness or softness, and innumerable other qualities, might be discussed here; but, from the great difficulty attending any examination of these points, and the technical niceties involved in any thing more than a bare mention of them, we omit them. There is one point, however, which it would be unpardonable to pass over in silence: sometimes no pulsation can be felt at the usual part of the wrist. This may proceed from so great a languor of the circulation, that it is imperceptible at the extremities; or from the radial artery (the one usually felt) being ossified; or from an irregular distribution of the arteries of the fore-arm.

TO INCREASE THE STRENGTH AND FIRMNESS OF THREAD AND COARSE CLOTH.—The lixivium of oak has been employed for scarcely any other purpose than that of the tanner, and yet it is applicable to a great variety of uses. If thread, cords, nets, coarse linen, &c. be steeped in it, they acquire greater firmness and durability. Fishermen have long resorted to this. Nothing is more apt to spoil than skins, and yet this preserves them. It is the same with hempen and linen cloth: they contain much gummy and resinous matter, which, with tannin, forms an envelope, and thus adds to their durability. Linen ought not to steep more than eight or ten days in this solution: it acquires a very brown color. When this color fades, the operation may be repeated.

The best method of preserving nets and cordage is the following: Dissolve two pounds of Flemish glue in fifteen gallons of water, dip the nets, &c. into this solution, and then

steep them in a strong solution of oak or chestnut bark,—the tannin combines with the gelatine, and forms, between the fibres of the hemp, a solid net work, which adds great strength to the cords. Any bark which contains tannin may be employed in making a decoction; so bones, parings of skin, remains of fish, &c. and generally all substances containing gelatine, may be used in making a gelatinous solution. Fishermen, who often throw away on the shore gelatinous fish, may use them for this purpose.—[Jour. des Connais. Usuelles.]

EFFECT OF OIL ON WATER.—The following is a secret worth knowing: In rough weather they (the fishermen of the Bosphorus) spread a few drops of oil on the surface, which permits them to see clearly to a great depth. I was aware that oil would calm the surface of the sea; but until recently I did not know that it rendered objects more distinct beneath the surface. A trinket of some value had been dropped out of one of the upper windows of our palace into the Bosphorus, which at this place was 10 or 12 feet deep. It was so small that dragging for it would have been perfectly useless, and it was accordingly given up for lost, when one of the servants proposed to drop a little oil on the surface. This was acceded to, with, however, but faint hopes of success. To our astonishment, the trinket immediately appeared in sight, and was eventually recovered.—[Dr. Dekay.]

SPONGE.—This well known marine production has been in use from very early times, and naturalists were long embarrassed whether to assign it a place in the animal or vegetable kingdom. Most authorities now agree in putting the sponges in the lowest scale of animal life. There are about fifty different species of sponges, of which nine or ten belong to this country. They are found in the Mediterranean and those seas in warm and temperate latitudes, diminishing in number and becoming of inferior quality on the approach to cold regions. They adhere to rocks in places the least exposed to the action of currents and waves, which the ebbing tide does not leave uncovered. The best sponges known to us are those which come from the Archipelago, where they abound near many of the islands, whose inhabitants may be said to subsist by the sponge-fishery, if we may so call it. At the Cyclades, for instance, sponge-diving forms the chief employment of the population. The sea is at all times extremely clear, and the experienced divers are capable of distinguishing from the surface the points to which the sponge is attached below, when an unpractised eye could but dimly discern the bottom. Each boat is furnished with a large stone attached to a rope, and this the diver seizes in his hand on plunging head foremost from the stern. He does this in order to increase the velocity of his descent; thus economizing his stock of breath, as well as to facilitate his ascent when exhausted at the bottom, being then quickly hauled up by his companions. Few men can remain longer than about two minutes below; and, as the process of detaching the sponge is very tedious, three, and sometimes four divers descend successively to secure a particularly fine specimen.

The best sponge is that which is the palest and lightest, has small holes, and is soft to the touch. By the old physicians, sponge was regarded as a cure for a long list of maladies; this last is now much abridged, though burned sponge, in which form only it is used, still has a place in the *materia medica*.—[Penny Magazine.]

* The lapse of eighteen centuries has not destroyed the utility, much less the beauty, of the eight books on Medicine bequeathed by Celsus to posterity; they are unrivalled for perspicuous elegance and laconic good sense. Celsus is one of the writers of the Augustan age, and is worthy of the times in which he flourished.

PRESERVATION OF SKINS.—J. Stegard, tanner at Tyman, in Hungary, completely preserves raw hides from putrefaction, and restores those that are tainted, by applying to them, with a brush, a layer of pyroligneous acid. They absorb it very speedily, and it occasions no injury nor diminution of their value.—[Receuil Industriel.]

AGRICULTURE, &c.

NOTHING MADE IN VAIN.—We have this week received the following communication, accompanied with a quantity of seeds, as referred to, for which we return the donor our thanks. From the date, we have no doubt but they were intended to have reached us earlier. The discovery of this way of procuring maple seeds is not only a matter of curiosity, but of economy; as we venture to say that it would have required the labor of one man at least one week, to have taken the shells from a quantity of seeds equal to those sent to us. We shall endeavor to have them planted, and will hereafter give the result.—[Goodsell's Genesee Farmer.]

Cultivation of the Sugar Maple and manner of procuring the Seed.

Mr. Goodsell,—Every one is delighted to see our native forests thickly planted by the hand of nature with this valuable and beautiful tree; valuable, because for cabinet work some varieties of this wood are superior to that brought from distant climes; first rate for fire wood, and as good for the manufacture of sugar as the cane plant. And who does not regret the destruction of the ax-man amongst them. Occupying the best soil, they are usually the first victims. But he who destroys should endeavor to produce anew. No native tree can be more easily cultivated than this, the seed being abundant and easily procured. It grows rapidly from the seed in open cultivated grounds, attaining the height of six feet in three years, and in twelve years the stems will measure from six to nine inches diameter. I send you a quantity of seed as a specimen; they are ready prepared for sowing, and are divested of the shell and wings; in their natural state, being connected together in pairs, they are usually called maple keys. About a peck is sufficient for seeding three acres of ground. Nature would seem to dictate the fall of the year to be the proper time for sowing the seed in their natural form, as the effects of the frost would be to soften the shell. At this season they are scattered abroad by the winds in infinite profusion. But divested of the shell and sown in the spring they will grow as surely as peas, and make their appearance at the time the forest trees put forth. They should be sown, or rather scattered upon the furrows of dry land, and harrowed in, and grass seed should be sown for future pasture. Hogs, calves, sheep, horses, &c., may be pastured among them, but no cattle, till they are out of danger. The third year, either fall or spring, they should be taken up, where too thick, and transplanted in vacancies. One thousand may commence growing upon an acre. In twelve years, an enterprising farmer, who wishes for the future prosperity of our country, as well as to enhance the present value of his lands, would walk five miles barefooted before sunrise in the month of June, to view the "sugar bush" of our climate, in full foliage, situated near the residence of the owner, sheltering his fruit trees and habitation from storms, and the resort of the songsters of the air. The leaves of the grove might be collected for the barn-yard. At the age of twenty-five years, the trees might be tapped. I was bred upon a farm, in a deep valley of the mountains, on the eastern border of this state, and have witnessed the growth of the sugar maple in groves from the seed, and also standing singly in fields, where they have stood for more than half a century, presenting a more beautiful appearance than the trees of

any land or clime. My occupation now is farming. As to the manner of procuring seed: I send you about one-fourth part of the winter store of a buck or wood-land mouse, which was deposited in a living hollow beach tree, 15 inches diameter; the whole of his store, being about one bushel, one half beach nuts, with a few other seeds, all shelled, and neatly put up for winter provision, and a nest within, lined with down, the residence of the family. A boy found another store-house the same day, which was 25th of December last, containing half a bushel of maple seeds, with others. Boys are skillful in such kind of hunting. In this way seed stores might be furnished with them from the maple forests of the west, in quantities sufficient to plant out territories and kingdoms. The buck mouse enters his habitation through a smooth hole an inch or less in diameter, into the hollow of the tree, sometimes nearer and sometimes further from the ground. At the commencement of cold weather and snow, the red squirrel visits the place daily, and endeavors with much chattering to gnaw through, to rob the mouse of his store. By this recent gnawing around the hole, and by tracking in the snow, the habitation of the mouse may be discovered. This little animal, also deposits vast quantities of elm seeds, in hollows of the branches and trunks of that stately tree. In the night season, when all his enemies sleep, except the owl, he is busily employed during the fall months, in running up and down the tree, and laying up his winter store. The habitation of the mouse is frequently occupied afterwards by the honey bee. Whenever the maple bears seeds, the mouse, in maple forests, is sure to have a proportion of them for his food.

S. H.

Clarendon, Jan. 25th, 1834.

CAPITAL REQUISITE IN FARMING.—Mr. Editor: Among the many causes assigned for ill success in agricultural pursuits, of which farmers are often reminded, there is one but rarely adverted to, and I suspect by many farmers has never been considered at all. And that is the absolute necessity of a loose capital to enable a farmer to cultivate his farm to any advantage. The amount of this capital should be nearly equal to the entire annual product of his farm, after deducting his annual gain, if there be any.

Suppose the entire annual product of a farm to be \$1000
Deduct suppose annual profit . . . \$150
Deduct also such portion of the milk, butter, grain, potatoes, and sauce generally, as is used in the family during the same season of their production, . . . 80

Leaving to be expended in living and working farm before receiving returns of produce of farm, \$770

Now if the farmer himself is both able and willing to perform the labor of one good hired hand, it will be equal to about 200 dollars of this sum, leaving 570 dollars the least amount of loose capital that will suffice to carry him through the year, without being pinched or obliged to slight his work. The amount of wool, flax and provisions, reserved for the consumption of the family from year to year, is included in this sum.

As this is a subject of importance, and as I wish to be clearly understood, I will proceed a little further. Farmers who live so far from market as to find it impossible, or inconvenient to get the produce of their farms to market before winter (and these constitute a very large majority), it will be seen at once, must incur the entire expense of working their farms and providing for their families for the year, before they realize any thing worth naming from the produce of their farms. Their hired hands must be paid in autumn, if not sooner, and if they expect to get store goods and mechanics'

work at reasonable rate, they must pay as they go along. A farmer sells his pork, butter, cheese, grain, &c. from January to April. The cost of producing all these was paid, (or ought to have been,) the summer and autumn before. His sheep are sheared in May, and should he be able to convert their fleeces immediately into money, (which he cannot always do,) still the whole expense of producing this wool, excepting about two months spring pasturing, was paid the year before, a considerable portion of it the August before.

It cannot be denied that a farmer can get along after a fashion, with little or no capital, because it is done by thousands every year. Some may inquire how this can be possible if the foregoing statement be correct. A farmer without capital, in the first place, will not perhaps hire more than half as much labor as his farm requires; of course all his work is slighted, and all done out of season, and half crops is the consequence. When the time arrives for paying his laborers, perhaps he will get some things out of the store for them on trust, or borrow a little money to pay them in part, and put off paying the remainder until winter or spring, to the no small injury of his credit, otherwise he must force the sale of some of his scanty produce at a reduced price, to make out the pay. In the next place he buys of the store-keeper wholly on a long credit, and pays a price accordingly, say twenty to thirty per cent. more than the cash price. His dealings with the blacksmith, shoemaker, and mechanics in general, are after the same fashion. And thus he passes his life continually pinched for the want of a little money, incessantly harassed by duns, and once in a while is appalled by a tap upon the shoulder, though gentle it may be, of the practised hand of a constable. And for this he must pay the latter, and his co-worker the lawyer, a sum of money for which he has never received any equivalent. And thus he brings the year about—no, properly speaking, he never brings the year about. He is forever toiling to bring up the arrangements of the last year. Time has got the start of him by one year, and he in vain attempts to overtake it.

It is a common remark that small farms are more profitable than large ones; this in the abstract is not true. Though it is doubtless true that multitudes of farmers greatly injure themselves by enlarging their farms *without an adequate increase of capital*. How often do we see farmers who have in the course of years accumulated a little money from small farms, barely enough to enable them to cultivate their present farms to the best advantage, invest the whole of this very capital in more land. Thus making an increase of capital necessary by the very act which deprives them of the little they already possessed. Could farmers who are without a loose capital be persuaded to pursue a precisely contrary course to this, to wit, sell off so much of the land they already possess as will raise a sufficient loose capital to enable them to cultivate the remainder in a proper manner, it would increase both their profits and comfort.

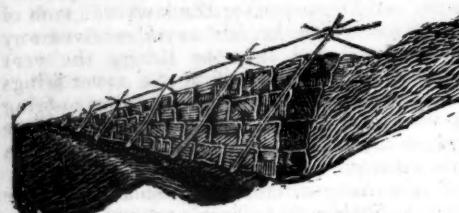
If any thing will excuse a farmer for mortgaging his farm, it is the hiring of money to work that farm. Though he ought in this case to be very certain that he is possessed of so much resolution and discretion, as to be in no danger of ever appropriating money so raised to any other use; so long as it is applied to this use only, it is not so very hazardous a plan. Before a mortgage can press heavily upon his farm, the money can be repaid, and at the worst he has only to return to his former method of farming by the halves, and without either satisfaction or profit. I do not wish to be understood as recommending to farmers the practice of raising money on mortgage. It is better with rare exceptions, where money must be raised, to sell off a portion of the farm, and preserve the remainder free from incumbrance.—H. W.—[N. England Farmer]

A Cheap Method of making Fence of a Durable Character. By L. M. T. [From the New-York Farmer.]

If the ground be inclined in a direction opposite to that of the fence, begin by turning three or four furrows with a side-hill plough down hill; let them be thrown by the spade up the hill; plough three or four more on the same ground, and let them be thrown above the others; the ground will then present this shape—



" Pick up your paving stones, if you have no better, or quarry about half as many as are requisite to make an ordinary $3\frac{1}{2}$ feet wall, and place them against the bank formed until you have a fence four feet high, and from nine to fifteen inches thick, and what is better, one which will not fall down, and which has been tested by the writer of this article to resist the frost, when all other methods of making stone walls have failed. The bank must incline one foot in the four, or four and a half, of height. This fence is made at less expense by one-half of stone, and one-third of ordinary wall in the price of laying. If designed to stop sheep, it must be staked and sided in this shape—

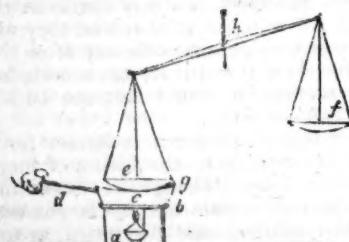


The same fence can be made on level ground, and has been by myself, when it will present nearly the above profile, staked and sided, and is effective against both sheep and cattle.

L. M. T.

Hoosick, Rensselaer co., March 21, 1834.

TESTS OF THE TEXTURE OF SOILS.—One of the best methods of ascertaining the capability of any soil to take up and retain moisture is that described by Mr. C. Johnson, for which purpose he employs the following apparatus.



' *a*, is a small lamp; *b*, a stool, with a hole in the seat for receiving *c*, a shallow tin vessel, closely covered, but having a pipe, *d*, for the escape of steam; *h* is a pair of accurate scales, such as are used by apothecaries and goldsmiths. In order to employ this apparatus, put a small quantity of the soil to be tried upon the top of the tin vessel, in which water is kept briskly boiling for about half an hour, so as to thoroughly dry the soil by expelling its moisture. Take ten grains accurately weighed of this dried soil,

and add to it, by means of a quill, a drop or two of pure water; if distilled water can be had, so much the better. Weigh the whole a second time, which will now be a few grains above ten. Take out the weight of the water from the scale, leaving in the weights of the dried soil, and suspend the beam, so that the scale *e* may rest on the lid of the tin vessel, the water in which it is still kept boiling; then with a stop-watch note the exact time which the added water takes to evaporate, as will be shown by the beam of the balance becoming level. Mr. Johnson found, that soils requiring less than twenty-five, or more than fifty minutes, to evaporate the added water, and bring the balance to a level, were always proportionally unproductive; the first, from having too much flinty sand, and consequently too few interstices to allow the water to escape.

Rich soil, treated in this way, required thirty-two minutes to bring the beam to a level; chalk, twenty-nine minutes; poor flinty soil, twenty-three minutes; and gypsum, only eighteen minutes.

A very fertile soil from Ormiston, Haddingtonshire, containing, in 1000 parts, more than half of finely-divided materials, among which were eleven parts of limestone soil, and nine parts of vegetable principles, when dried in a similar way, gained eighteen grains in an hour, by exposure to moist air, at the heat of sixty-eight degrees Fahrenheit; while 1000 parts of a barren soil, from Bagshot Heath, gained only three grains in the same time.

Mr. Johnson farther found that one hundred parts of burnt clay, when exposed in a dry state for three hours to air saturated with moisture at sixty-eight degrees, took up twenty-nine parts of water; that gypsum, in similar circumstances, took up only nine parts, and chalk only four parts.

Another method of testing the texture of soils is by taking what is termed their specific gravity; that is, comparing what they weigh in air with what they weigh in water. Sufficient accuracy for practical purposes may be obtained by drying two different soils, at an equal distance from a fire, or in an oven, at the same time, and then weighing in the air a pound of each in a thin bladder with a few holes near its top, or neck. When the weight has thus been obtained in the air, the bladder may be put into water, letting it sink low enough to permit the water to enter through the holes in the neck, in order to mix with the dried specimen of the soil. The weight in water, divided by the difference of the two weights, will be the specific gravity, and the less this is, the greater will be the capacity of the soil to take up and retain water. Muschenbroek thus found rich garden mould to be 1630 compared to 1000 of water, and Fabroni found a barren sand to be 2210 compared to 1000 of water.

Or fill a wide necked pint or quart bottle half full with water, and add the soil to be tried till the water rises to the brim. Then if the bottle can contain one pound of water, and gains half a pound additional when filled in this way, half with water and half with soil, the soil thus tried will be twice as heavy as water, and its specific gravity will be two. If it only gain a quarter of a pound, its specific gravity will only be one.

M. Giobert ascertained that a pound of fertile soil contained, of flinty sand, about 4,400 grains, of clay about 600 grains, of lime about 400, besides seventy of water, and about twenty-five grains of inflammable materials, chiefly carbon. On a comparative trial of a barren soil, M. Giobert found that a pound weight contained about 600 grains of clay, about 400 grains of lime, and little or no inflammable materials. Mr. Grisenthwaite directs an equal portion of two soils, perfectly dry, to be introduced into two tall glasses, in the midst of each of which a glass funnel has been previously placed. The soils are to be put in so as to retain, as nearly as possible, their natural state when in the ground, and are consequently not to be too much pressed down. When this has been done, water is to be poured very gradually into each of the

funnels, and it will rise up as it does in a piece of lump sugar into the dry soil, as may be seen through the glass. The more rapidly the water is seen to rise, the better will be the texture of the soils.—[Professor Rennie.]

WHITE MULBERRY.—Experience and observation have demonstrated that the shade of mulberry trees is not injurious to the growth of grass, grain, or any other vegetable. This is an important discovery, and argues powerfully in favor of the means of raising silk.

I would advise, with humble deference, that every farmer procure mulberry seed, form a nursery, transform all his fences into mulberry hedges, and plant standard mulberry trees along all those hedges half a rod distant from each other. A farm of a hundred acres, fenced as above advised, would in a few years yield from the fences a crop worth several hundred dollars! These fences would be as cheap as any other a farmer could erect, would require no repairs, no renewal, so that all the produce arising from the leaves would be a clear profit. One hundred pounds of leaves would produce, in this country, one pound of reeled silk, judiciously fed, worth from four to seven dollars—the price being governed by the good or bad reeling. A single tree will produce from thirty to sixty pounds of leaves, depending on the growth of the tree, soil, &c.—[Village Record.]

On Hussey's Reaping Machine. By CYRUS H. M'CORMICK. To the Editor of the Mechanics' Magazine, and Register of Inventions and Improvements.

ROCKBRIDGE, Va., May 20, 1834.

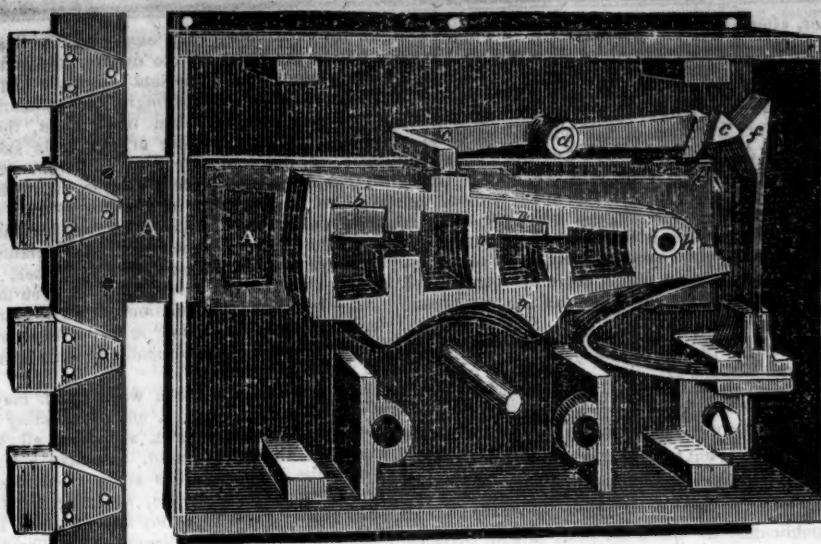
DEAR SIR,—Having seen in the April number of your "Mechanics' Magazine," a cut and description of a reaping machine, said to have been invented by Mr. Obed Hussey, of Ohio, last summer, I would ask the favor of you to inform Mr. Hussey, and the public, through your columns, that that principle, viz., cutting grain by means of a toothed instrument, receiving a rotatory motion from a crank, with the iron teeth projecting before the edge of the cutter for the purpose of preventing the grain from partaking of its motion, is a part of the principle of my machine, and was invented by me, and operated on wheat and oats in July, 1831. This can be attested to the entire satisfaction of the public and Mr. Hussey, as it was witnessed by many persons: consequently, I would warn all persons against the use of the aforesaid principle, as I regard and treat the use of it, in any way, as an infringement of my right.

Since the first experiment was made of the performance of my machine, I have, for the mutual interests of the public and myself, been laboring to bring it to as much perfection as the principle admitted of, before offering it to the public. I now expect to be able, in a very short time, to give such an account of its simplicity, utility and durability, as will give general, if not universal satisfaction. The revolving reel, as I conceive, constitutes a very important, in fact, indispensable part of my machine, which has the effect, in all cases, whether the grain be tangled or leaning, unless below an angle of 45° to the ground, to bring it back to the cutter, and deliver it on the apron when cut. Very respectfully, yours, &c.,

CYRUS H. M'CORMICK.

* For description and cut of this machine, see page 223 of this Journal.

EXPORTS FROM NEW-ORLEANS.—The Governor of Louisiana, in his late message to the Legislature, estimates the exports of New-Orleans for the year 1831, at \$31,700,000, as follows: Cotton 450,000 bales at \$55 . . . \$31,540,000 Tobacco 30,000 hhds. at \$10 . . . 1,200,000 Sugar 70,000 hhds. at \$65 . . . 4,550,000 Molasses 3,500,000 gallons at 20 cts. 700,000 And for western produce 5,500,000 from the sum of which he deducts \$22,000,000 for home consumption—leaving the aggregate as above.



[From the Mechanics' Magazine.]

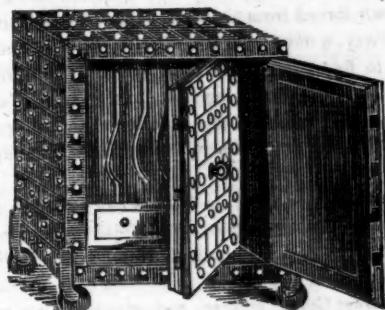
CHUBB'S PATENT LOCK.—The lock made by C. J. Gayler, of 102 Water street, New-York, of which a drawing is annexed, affords more security than any other yet invented, as it cannot be picked or opened with any false instrument; and its combinations are so extensive that tens of thousands may be made without making two alike.

Description—A A a, the bolt; b, the square pin of the bolt; c c, the detector, moving on the centre d; f, the detector spring; g, four tumblers, moving separately on the centre h, shown lifted by the key to the exact position for the square pin b of the bolt to pass, in unlocking. Should one or more of the tumblers be lifted by a pick or false key, in the least degree beyond their present position, the detector, c c, being thus overlifted, will, by the angle of the spring, f, pressing on the opposite side of the angle of the detector, force its hook into the notch a of the bolt, and be firmly held so, until disengaged by the regulating slide K k; in which case, by the introduction of the key, the tumblers are lifted to the regulating combination, and admit the stud n, affixed to the regulating slide, to enter the several grooves, o, in them; the bevelled end k of this slide, by the same movement, pressing against the hook of the detector, disengages it from the notch a of the bolt.

It possesses the four principal requisites of a good lock, namely, security, simplicity, strength, and durability; its security, particularly, is increased beyond calculation, by an improvement (the detector) which not only renders it impossible to be picked, but also *detects the first attempt to do so*, thereby preventing those repeated efforts to which all other locks are exposed: at the same time it will be noticed that the thief, in making the attempt, renders the lock more secure, for if the detector is (as it must be in such cases) overlifted, it will force its hook into the bolt, and will there remain until it is disengaged, *which can only be done with the true key*, in the following manner: the key must be turned half way round in the lock in the same way as in locking; then turn back again, and then turn round in the usual way to unlock. If an attempt has been made to pick the lock, the detector will be overlifted, and catch in the bolt; this circumstance will at once be known, when the true key will not open the lock until the detector is disengaged in the way above

mentioned. As to its durability, it is not liable to be injured by constant use; this has been fully ascertained by a lock having been locked and unlocked by steam power *four hundred and sixty thousand times* without receiving the least injury.

Mr. Gayler makes use of this lock in all his Double Fire Proof Chests, of which the annexed engraving is a correct representa-



tion. They have been several times tested by fire, and have afforded perfect security to valuable books and papers. They are now in use in upwards of fifty banks in the United States, as well as in record and other public offices, and for such purposes are preferred to vaults, as they are equally safe against fire, are free from damp, and can be removed from one building to another with little trouble or expense.

NEW-YORK AMERICAN.

JUNE 7-13, 1834.

LITERARY NOTICES.

THE FROLICS OF PUCK, 2 vols. N. Y.—*Harper & Brothers*.—A re-publication from an English work. There is much cleverness in these tales; and the evidence, both of good writing and considerable powers of invention—all which, in our judgment, would have told better, and been more consonant with the taste of this matter of fact age, by the omission of the goblin machinery altogether.

Puck, having offended Queen Titania, is banished from fairy land till he should be able to solve the riddle “what pleases woman most.” The answer, according to Frolie the First is, that “it is her lover.” This answer, the termination of Frolie the Second, renders rather doubtful in Puck’s eyes. The third implies love for her husband to be the chief passion: but the riddle in the fourth, is finally thus solved by Puck:

Be she young or be she old,
Warped, or formed in beauty's mould;
Be she widow, wife or maid,

By whatever temper swayed,
Woman's master passion still
Is—to have her sovereign will.

PAPER AGAINST GOLD, or the history and mystery of the Bank of England—by Wm. COBBETT. 1 vol. N. Y.: JOHN DOYLE.—There is no living writer of more power than Wm. Cobbett, whatever be the subject he handles. In the papers embodied in this vol.,—and which were written 20 years ago when he was a State prisoner in Newgate, for having attempted to excite the hatred of the British nation against the German soldiers, then incorporated with the British army, and a portion of whom had been just employed in putting down a mutiny in a British regiment—the danger, and fraud indeed, of a *paper circulation irredeemable in specie*, are set forth with admirable clearness and effect. In this country, where the tendency—by multiplying banks and straining to their utmost their issues—is to induce many of the evils of a paper circulation unsustained by a specie basis, these essays should be read, and may be productive of good—though as long as the restraining law of this State exists, and the right to grant bank monopolies is held and exercised as a political instrument, there will be little room for the operation of mere reason.

THIRTEEN SERMONS, by Wm. COBBETT, M. P.; 1 vol: New York, John Doyle.—We have here the same vigorous and lucid pen applied to various subjects, and in the guise of a teacher of morals and religion. A single extract upon *Gambling* will exemplify the style and manner of these sermons, so called:

Gaming is sometimes called *play*; but, what is it in *reality*? What is the *object* of every gamester? It is to *gain* by the *loss* of another. The object is not to effect an *exchange* of one thing for another. It is not to render value for value, in any way or under any form. The object of every gamester is, to get by doing injury to his neighbor. It is to get his money or his goods from him without yielding him any thing in return; and this, disguise it under what name we may, is *extortion* and *fraud*.

This is not less its character because it as often fails of success as it succeeds in its purpose. The thief is not less a thief when he fails than when he succeeds. It is the intention in both cases that constitutes the crime; and, as to the *chance* that you give your neighbor, you *think* that it is *not so good as your chance*; for, this is the very principle upon which you proceed. This thought must necessarily exist in your mind, or you are destitute of motive altogether. You conceal from your neighbor the fact, that you have reason for expecting to get his money from him. You practice deceit from the first to the last; and your sole object is your own private gain to be effected by his loss.

Pretenders to religion, who are at the same time gamesters, are by no means few in number. If, instead of persecuting their neighbors for difference of opinion on points of doctrine, they were themselves to pay attention to the uniform language of Scripture on the subject of *deceit*, and especially of deceit practised for the purpose of unjustly extorting from our neighbor his money or goods, they would, perhaps, cease both to game and persecute. In Leviticus, ch. iv. the law is clearly laid down.—We are in no case to *deceive* our neighbor; and, if we have gotten any thing from him *deceitfully*, we are to restore it with the fifth part in addition; and then, *atonement* being made, *forgiveness* is to be obtained.

Now, the very essence of gaming is *deceit*. It is impossible to gain, except *deceitfully*; for there is deceit in the motive. And, as to the *manner* of accomplishing the *end*, it presents, perhaps, the strongest possible proof of meanness and baseness of mind. Feigned pleasure, feigned sorrow, feigned applause and feigned reproof: all is false: looks that lie, the lies being too refined to be trusted to the tongue. And all this for the base purpose of gain at your neighbor’s expense, and possibly by means of his ruin! From such a school, who is to expect sincerity, uprightness, or even common humanity? Accordingly, it is invariably found, that gamesters are amongst the most *unfeeling* as well as the most *fraudulent* of mankind. In Virginia and the slave-states of America, nothing is more common than to see the gamester whose purse has been emptied, call in a domestic slave, man,

woman, or child, as a *stake* to be *played* for against a sum of money. Thus the drawing of a card, or the turning of a die, may, and frequently does, separate instantly, and for ever, wife from husband, and child from parents! Look at the poor creature that stands trembling by, awaiting the result of the game; and then find, if you can, words to express your abhorrence of those who can give to a deed like this the appellation of *play*!

LA REVUE FRANÇAISE for May. New York: Hos-
KIN & SNOWDEN.

THE KNICKERBOCKER for June. New York, J.
DISTURNELL.

THE UNITED STATES MILITARY AND NAVAL MA-
GAZINE for June. Washington, D. C.: BENJAMIN
HOMANS.

Mechanics' MAGAZINE AND REGISTER OF INVEN-
TIONS AND IMPROVEMENTS, for May. Edited by JOHN
KNIGHT. N. York: D. K. MINOT & J. E. CHALLIS.

These are the only periodicals on our table at present. The first named is a good number. Its leading article, upon the financial administration of this country, though written by a Frenchman, will, we suspect, impart information to a great many Americans, well-informed though they be. It reproduces and re-examines the statements of the controversy respecting the relative expenses of the French and American governments, between M. Saulnier on the one side, and Gen. Lafayette, Gen. Bernard, and J. Fenimore Cooper on the other.

The Knickerbocker for this month is good merely. The conclusion of the paper on *Talleyran*, if authentic, is very interesting. From the article on Peace Societies, we make an extract, exemplifying the contradiction and inconsistencies of war by a striking incident connected with the battle of Navarino.

Another trait of mad incongruity, and, seen its true light, of disgusting contradiction, ensues. While the fight lasted, mercy and humanity would have been crimes. The only duty, the only heroism and perfection of military attainment, is to kill. But the moment the battle is over, the point of honor is reversed; and the perfection of bravery and honor is to expose life, and manifest an intrepid recklessness to danger to save the very victims, which, but a few moments before, it was duty in every possible way to attempt to destroy. A recorded incident, after the battle of Navarino, will show how this incongruity impressed a race whom we are accustomed to consider as barbarians. After the firing had ceased, Sir Edward Codrington, the English admiral, sent a lieutenant on board Moharem Bey's ship, to offer any medical or other assistance they might want. This vessel, probably with a crew of more than a thousand men, had but one medical officer on board, and he, unfortunately, had been killed among the first in the action. Her loss had been immense, and they had not thrown the dead overboard, nor removed their wounded to the cockpit; and the deck presented a most horrible scene of gore and mangled bodies. Amidst this frightful spectacle, about a dozen of the Turkish officers, superbly dressed, sat in the cabin upon crimson ottomans, smoking with inconceivable apathy, while slaves were handing them their coffee. The English officers presented their Admiral's compliments, and offered any assistance. The chief Turkish officer replied with frigid composure, 'that they stood in no need of any assistance whatever.' 'Shall not our surgeon attend to your wounded?' 'No,' gravely replied the Turk. 'Wounded men need no assistance. They soon die.' Returning to the Asia, Sir Edward Codrington's ship, and communicating the result of their mission, they were ordered back to bring with them the Turkish admiral's secretary, and some other officers, with whom the English Admiral held a long conference. When it was closed, the English lieutenant was ordered to land the Turks wherever they chose. Rowing them ashore about day-break, they saw the wreck of a mast, on which a score of wounded or exhausted Turks were endeavoring to save themselves. 'I must rescue these poor fellows,' anxiously exclaimed the lieutenant. 'They are only common soldiers, and will soon die. Never mind them,' said the Turkish secretary, with the utmost composure. 'But it is my duty to mind them; and should I not attempt to relieve them, the Admiral would reprove me and I should disgrace the service. Having said this, the boat was ordered to pull towards the mast, and the lieutenant succeeded in saving about a dozen of these unhappy wrecks. As soon as they were stowed in the bottom of the boat, the Turkish

officer, after a short but apparently profound meditation, burst into an immoderate fit of laughter. 'What is the matter?' exclaimed the astonished lieutenant. 'What, in the name of heaven, is there to laugh at in saving these poor fellows?' 'What to laugh at?' replied the Turk in a tone of the bitterest sarcasm.—'Laugh! by Allah! Are not you English a consistent people? Yesterday, while we were quietly taking our coffee, you opened upon us your cannon, and knocked our ships to pieces, and killed or mangled our men, until the fleet is one vast slaughter-house; and this morning you have suddenly become so humane, that you cannot pass a score of wounded soldiers without putting yourself out of the way to save them!'

The *United States Military and Naval Magazine* continues—we cannot say to flourish; for the Editor says in this number, that the encouragement he has hitherto received, scarcely pays the expences even of printing—but to appear regularly, and to furnish evidence that it deserves to live, even though it should die. We hope better for it, however; for it is a publication in which the pride of both services should be enlisted, to make it what they can make it, if they choose, a valuable and useful miscellany.

The *Mechanics' Magazine* is full, as usual, of all sorts of information respecting inventions for the benefit, convenience or safety of the human race. There is, among other curious things, in this number, a scheme for raising vessels or goods sunk in deep water, by means of air buoys sent down by a diving bell in a collapsed state, and then inflated under water by means of a tube communicating with the air forced from above into the diving bell. In this way, a number of balloons, for so they become, are to fly upward with their freight. If there be a spark of mechanical ingenuity in the mind, it seems to us impossible that this magazine can be even casually glanced at, without awaking it into full energy.

PLAN OF THE CITY OF NEW YORK IN 1738; by J. Hayward, Courtland street.—This, in the present state of the city, is quite a curiosity. It is lithographed from the original in possession of G. B. Smith, the Street Commissioner, and gives a view of the city when Dey street was about its northern extremity on that side. As a point of comparison from which to measure our onward march, this is quite striking.

NURSE'S MANUAL AND YOUNG MOTHER'S GUIDE, by RICH'D S. KISSAM, M. D.; Hartford, (Ct.) CROKER & Co.—A useful little volume for those to whose use it is dedicated. It is plainly and sensibly written, free from hard words, technical terms, or the affectation of science, and will do good extensively, if read and followed.

NEW MUSIC.—Of this we have, for the week, the following pieces from JAS. L. HEWITT:

"Not worlds on worlds in Phalanx deep," a sacred song; the words by Cowper, music by W. A. King.

"The old oak tree," a ballad, by Haynes Bailey; music by C. Herbert Rodwell.

"May you be happy;" words by Chas. Jeffreys; music by C. A. Hodson.

"L'esperance," a Waltz for the Piano; by Geo. B. Cogdell, of S. C.

"Zitti Nessun que ve," and "Ah come Nascondere," both from *Matilde e Corradino*, and arranged for two performers on the Piano; by M. C. Mortelari.

"The Crusader's Bride," a cavatina, sung by Mr. Wood; music by C. A. Hodson.

We conclude the Review today, which, by reason of other indispensable occupations, we have been prevented from making more comprehensive this week, with the following curious paper on INQUIRIES respecting the Weight of Man at different Ages. By M. Quetelet.

The Statistical Researches of M. Quetelet are well known to the public. They possess the rare merit

of at once being very exact and well arranged, even in the most minute details, and in investigating certain very important scientific and philosophic questions. Accordingly, in estimating, with more precision than had been done, the weight and the average stature of the male and the female, at different ages, (or different periods of life) and among different nations, M. Quetelet, as well as M. Villermé and other savans, have not been desirous to satisfy a vain and trifling curiosity; they have deduced principles relating to the health of man in different circumstances, to Hygiene, to the laws of conscription, and even to the fine arts. Under the last relation, which appears a little foreign, this is the manner in which M. Quetelet expresses himself in the preamble of the work of which we speak.

"In order to produce a work which may be truly capable of touching us, and of affecting our passions, we must know man, and above all, the man whom we would represent. To take a single example, the artist, who has studied only the type of the Greek physiognomies, however admirable in other respects this type may appear to us, if he reproduces it in modern subjects, it will be cold and ineffectual upon the spectator, who will perhaps admire the art and composition, but will not be deeply affected. The Greek figures, however varied they may be, on account of age, passion, and sex—have, notwithstanding, an air of family, which carries us back towards antiquity, in spite of ourselves, and withdraws our attention from the subject which we would represent.

"If one endeavors to make them, the anachronism will become more sensible. Artists at the commencement have comprehended this necessity of painting what they had under their eyes, and it is in this way that they have produced effects so magical. The noble and severe figure of Christ has nothing in common with that of Apollo nor of Jupiter of the ancient mythology. A virgin Mary of Raphael has an enchanting grace which yields to nothing in the most beautiful ancient forms, and they exert on the imagination a greater influence, because they are more conformable to nature by which we are surrounded, and because they act more immediately upon us. We ourselves in climates more remote, perceive the need, in retracing our national actions, not to present Greek or Italian figures in the midst of a battle, in which we find men, almost all of the same age, all alike covered with warlike apparel, our eye seeks to recognize, from the features and expressions of the physiognomies, the Frenchman or the Englishman, the German or the Russian. Even in the French army, the soldier of the Old Guard had a physiognomy which had become classic, and which was identified in some measure with the resemblances of the empire.

"It is certainly to the little attention that has been given to the study of the shades, by which the physical and moral qualities of man pass among different nations and in different ages, which gives rise to that monotony and coldness of the greater part of the works of the imagination. We have, indeed, perceived the necessity of studying nature, and of being true; but, I think we have not remarked sufficiently that nature is not invariable. The ancients have represented, with infinite skill, physical and moral man, such as he existed then; and the greater number of the moderns, struck with the perfection of their works, have believed that they can do nothing better than servilely imitate them; and they have not considered that the type had changed, and that, in imitating for the perfection of the art, they had another nature to study. Hence this universal cry, 'Who will deliver us from the Greeks and Romans?' hence this violent schism between the classics and the *romantique*; hence in fine, the need of a literature which would truly be the *expression of society*. This great revolution is accomplished, and it furnishes a proof the most unexceptionable of the variability of the human type, of *Phomme moyen*, among different nations and different ages.

"Thus the determination of average man is not useless, even for the fine arts and letters, and he who would arrive at this determination, will have no difficulty to make artists and litterati listen to him. He would teach them to know, in a more precise manner, things which they already know vaguely: he would teach them other things of which they are ignorant, or at least he would rectify their judgment concerning a multitude of prejudices. They would receive these, in the same manner as a painter learns perspective, which, under its geometrical form, is far from being picturesque also. Moreover, they have received the researches of Gall and Lavater, with more eagerness, perhaps, than the savans themselves; it is even to their care that we owe, in a

great measure, the knowledge of the proportions of the different parts of the human body as respects age and sex."

In the little work in which we find these general considerations with others which we are compelled to omit, the author investigates what concerns the developement of the weight of man in the same manner as he has determined his growth, his inclination to crime, the succession of generations, &c. Afterwards he will publish new inquiries concerning the strength, swiftness, and other qualities of the human species; inquiries which, in order to be exact, must be made by many associated observers, and upon a great number of individuals. Physicians and engineers have been sometimes led to estimate the weight of men arrived at maturity, and considered, for example, as burdens placed upon a building, or as weights acting on a machine. Le Hir has made very remarkable researches of this nature. On the other hand, the legal practitioner must often be occupied with this subject, for one of the most frequent problems is to determine after death, the probable age of an individual, from the assemblage of physical qualities. On this grave question, we are generally reduced to the estimation of practitioners more or less vague; but if, in a case of infanticide, for example, we stated in the process-verbal the weight and stature of the infant, as well as those physical characters susceptible of measure, and as we might have by the side of that, well constructed tables, which would give us for the different ages, the values of these physical qualities and their mean variations, we would have terms of comparison which would be better than the appreciation of practitioners, or which would serve at least to control their assertions. We see from these examples, that the inquiries concerning the weight of man, have more than one application.

The observations of M. Quetelet were made at Brussels in the Maternal Hospice of St. Peter; he compares them with those made at Moscow and Paris, in similar hospices; and he finds little difference between the means obtained. Unfortunately the Russian and French practitioners have not distinguished, with as much care as M. Quetelet, the sex, the stature, and the weight of children observed at their birth. This renders the results less capable of comparison. M. Quetelet found for sixty-three male children, and fifty-six female, newly born, the following quantities,

Weights. Stature.

Male children 7.057536 lb. Avoird. 1.62732 feet.

Female do. 6.417946 1.58467

The extremes are—

Boys. Girls.

Minimum, 5.1608232 lb. Avoird. 2.4701376 lb. Av. Maximum, 9.92466 9.36329

The mean weight without distinction of sex, is 6.7377414 lb. Avoird. It has been found at Paris on 20,000 observations, 6.74656332 lb. Avoird.

Q. Quetelet has made similar inquiries concerning children from four to twelve years of age, in the schools of Brussels, and in the orphan hospital—concerning young people in the colleges and in the medical school—finally, concerning old men in the magnificent hospice which has been constructed in the same city for a period of four years. The results have been completed by observations made upon isolated individuals, taken by chance from the mean of all these data. The author has been able to construct tables, which shows the mean stature, the mean weight, as well as the minimum and maximum, at each age, and for both sexes. These tables show that there exists at each age, and for each sex, a constant relation between the mean weight and the mean stature, from which the author has constructed another table, more exact than those which result directly from observations on the weights. It follows, from the mean stature formerly observed by the author, for the whole population, or at least from a number of individuals much more considerable than in these last inquiries, and gives the mean weight corresponding to each stature, according to the observations which make the subject of this memoir.*

The following is a table, which we may consider as exact for the whole population of Brussels, and which, for want of a table of this sort, calculated for other countries, may serve, at least, as an approxi-

* The author cannot consider the results obtained in hospitals and public schools as very exact as to the mean stature of the population, because inquiries made by him concerning a great number of individuals have proved to him that the mean stature is a little more among individuals in easy circumstances than in the indigent population, who have recourse to hospices, hospitals, and gratuitous schools,

mation for the Caucasian race, and in a temperate climate.

A TABLE of the Development of the Stature and Weight.

Years.	MALES.		FEMALES.	
	Imp. Ft.	Weight.	Imp. Ft.	Weight.
0	1.64045	7.05736	1.60764	6.4179468
1	2.29007	20.841786	2.26382	19.361692
2	2.59519	25.0101432	2.56238	23.5324716
3	3.23469	27.5023356	2.79532	26.0426093
4	3.04468	31.3839804	3.00109	28.67124
5	3.24153	34.7804194	3.19559	31.6706928
6	3.43511	38.7982752	3.38261	35.28788
7	3.62539	42.984168	3.56305	38.6841192
8	3.81240	45.7857648	3.74351	42.0605584
9	3.39942	49.954122	3.92067	47.1040598
10	4.18314	54.0789696	4.09457	51.8728890
11	4.3636	59.768508	4.26189	56.570562
12	4.54404	65.7674136	4.43905	65.7674136
13	4.72122	75.8244024	4.60310	72.6485113
14	4.89638	85.4844048	4.76714	80.941116
15	5.07227	88.69745894	4.91807	89.035276
16	5.22975	100.5461916	5.03616	96.0927036
17	5.36099	116.559616	5.10179	104.3412588
18	5.43973	127.587013	5.13132	112.5456444
20	5.49322	132.4611288	5.15757	115.3024946
25	5.51191	138.7909564	5.17398	117.5079744
30	5.52503	140.378802	5.18054	119.8337284
40	5.52503	140.4229116	5.18054	121.8666004
50	5.49222	139.9597608	5.03946	123.8697568
60	5.37740	136.074312	4.97384	119.757564
70	5.32490	131.2701696	4.96728	113.6042748
80	5.29219	127.5439084	4.84103	108.884576
90	5.28219	127.5439084	4.93775	108.5183332

We see, from this table, 1st. That, at an equality of age, the male is generally heavier than the female; towards the age of twelve years only, an individual of either sex has the same weight. 2dly. That the male attains the maximum weight about the age of forty years, and that he begins to lose, in a very sensible manner, towards his sixtieth year; that, at the age of eighty years, he has lost about 13.23988 lb. Avoird., the stature being also diminished 2.75604 inches. 3dly. That the female attains the maximum weight later than the male, towards the fiftieth year. 4thly. That when the male and the female have assumed their complete development, they weigh almost exactly twenty times as much as at the moment of their birth, while their stature is only about 3 1-4 times beyond what it was at the same period.

Children lose weight during the three first days after their birth; at the age of a week they begin sensibly to increase; after one year they have tripled their weight; then they require six years to double the weight of one year, then thirteen to quadruple it.

To calculate the burden of an edifice, or a bridge covered with a crowd, it is well to know that the mean weight of an individual, whatever is the age or sex, is about 98.584956 lb., that is, 103.65756 lb. Avoird. for the males, and 93.7328 lb. Avoird. for the females.

During the development of individuals of both sexes, we may regard the squares of the numbers representing the weights, at the different ages, as proportional to the fifth powers of the statures.—After the complete development of individuals of both sexes, the weights are almost the squares of the statures.

The weights have varied, in the extremes, among individuals regularly conformed, from 1 to 2, whilst the stature has varied only from 1 to 1 1/3.

The inferior parts of the body are developed more than the superior. In a child, the head is equal to a fifth part; and in a full grown man, to an eighth of the whole height of the individual. It appears from a note at the end, that these proportions, vary a little among different nations; but M. Quetelet, who, in his preliminary observations, explains very well the importance of these inquiries to the fine arts does not appear to have written this work purposely for them. The activity which he has exhibited in his researches, make us believe and hope that he will resume them at another time.

This little interesting work is terminated by data concerning the weight of human bones, which belonged to individuals of different ages, a very important subject in certain cases of legal medicine.

LATE FOREIGN NEWS.—The *Sylvanus Jenkins*, packet, from Liverpool, of 8th ult., brings intelligence that may be deemed decisive of the struggles in Portugal and Spain, in favor of Donna Maria and the young Queen.

The strong places in Portugal which held out for Miguel, have almost all fallen, and Don Carlos, the pretender to the Spanish throne, had embarked, it was said, or was about to do so, for England; thus leaving the Queen Regent free to make such terms with the liberal party in Spain, as they may have the strength to exact; for we believe not much in the voluntary concessions of legitimacy to liberty.

We are concerned to find the following paragraph

from the London Times, indicating as it does, most criminal negligence on the part of one of our frigates:

The London Times of the 10th contains the following extract of a letter from Toulon, dated May 1.—"On the celebration of the King's fete, the following melancholy accident occurred.—At 12 o'clock, all the batteries and the ships in the roadstead fired salutes. Two American frigates here also paid the same compliment to the day, but unfortunately the gunners of the Constellation forgot that some of their guns were loaded with shot, and firing within pistol shot of the Suffren, one of the balls entered a port hole, killed one of the sailors, and carried away the leg of another. Some of the shot entered the hull, and five or six men were wounded by splinters, and obliged to be sent to the Hospital.

The London Globe of the 8th, says—We have great satisfaction in stating that a telegraph despatch has been received at Paris from Bayonne dated the 6th inst. announcing that Don Carlos had embarked for England, and that the affairs of Portugal had been arranged between Don Miguel and Don Pedro. The intelligence was brought to Bayonne by the French Secretary of Embassy, who left Madrid, on the 3d.

The Liverpool Journal of the 1st May says,

We have great pleasure in announcing the probable cessation of hostilities in the peninsula. The Lord Nelson, in five days from Lisbon, has arrived at Dartmouth, with news that the Pedroites had taken Figuera,—that Coimbra had declared for Donna Maria,—that the whole of the road from Oporto to Lisbon was open to the Pedroites—and that Don Miguel and Don Pedro had come to a settlement, an armistice having been agreed to. Nor is this all, a telegraph despatch was received at Paris on the 6th instant stating that Don Carlos had embarked for England; it also corroborates what we have above mentioned respecting Portugal, for the despatch says, "The affairs of Portugal have been arranged between Don Miguel and Don Pedro." These letters by the Lord Nelson confirm the fact respecting Don Carlos and say that he had placed himself under the protection of the English.

The news reached Paris from Bayonne, whether it had been brought by the French secretary of legation, who had left Madrid on the 3d instant. Coming to us, from two sources, besides its extreme probability, we are inclined to give it every credence. We understand that the ratification of the convention between the four powers would be immediately and finally executed.

The Irish Tithes Bill as it is called, came up for discussion in Parliament on the 6th, and on deciding for a second reading the vote stood 288 to 52, majority in favor 196.

The letters from Paris, of Tuesday's date, bring the prices of the French funds very firm, the five per cent. Rentes having closed at 105f. 45c and the three per cents, at 79, 25c. Spanish Cortes bonds, which closed at 30 8.4. The Portuguese Regency were at 77.

Reduction of the four per cents.

Public announcement has at length been made of the plan for the reduction of the four per cents.

Of this plan, in the form now proposed, a favorable opinion is generally expressed in the city, as a plain straightforward measure, manifesting a proper confidence in the resources of the country, and not threatened with any serious objections or difficulties in the course of its execution. It is obviously indispensable to its success that the 3 1-2 per cents. should raise to par at the least, as all persons would otherwise be dissenters to the conversion, and in this there are some persons certainly who anticipate difficulty, but we suspect the measure has been prepared with too much foresight to leave any probability of it, and that a command of money is in reserve far greater than there are likely to be dissenters to call for. At present there is an actual advantage to be made in the sale of the four per cents., and by investing the money in the existing 3 1-2 per cents., of about 5.8 per cents.; but a few operations of this kind would soon do away with that advantage, and bring the stocks to the same level. The union of the new stock with the large mass of the existing 3 1-2 per cents., though the dividends are at a different quarter of the year, is held to be a judicious feature of the measure, and has been adopted, without doubt, because the other class of 3 1-2 per cents. are redeemable at the will of the government; while the others, with the four per cent now converted, are not redeemable till the year 1840. A further conversion therefore, and on a much larger scale than this, is looked for early in the next year.—[Times.]

The death of *Lander*, the latest adventurer in Africa, has been before mentioned in this paper; annexed are the particulars of that death. It is grateful to be able to add, that the British Government have conferred a pension of £70 on his widow, and one of £50 on his infant daughter.

AFRICAN EXPEDITION—Death of Mr. Lander.—We regret to learn that intelligence has been received of the death of the enterprising African traveller, Richard Lander. He was fired upon and severely wounded by the natives on the Nunn river, where he had gone for the purpose of trade, early in the month of January, and he died at Fernando Po. on the 2d of February. The following extract of a letter from Captain Fuge, of the Crown, contains all the particulars of this melancholy event that are yet known. Mr. Lander was buried by Capt. Fuge on the day he died.

"Mr. Richard Lander expired at Fernando Po. on Sunday, the 2d of February, on his way up into the interior with a schooner boat, loaded with goods for trade, and two canoes which were towed from Cape Coast by the cutter Crown. He was attacked on all sides by bushmen, all armed with musketry. One white and two black men were killed; one woman and child, with a boy were taken prisoners. Mr. Lander and the remainder fortunately managed to get into one of the canoes and pull for their lives. Mr. Lander received a shot in his hip; a seaman and two Kroomen were also severely wounded. They left the Crown to proceed up the river on the 13th, and returned to the cutter on the 21st of January. They lost every thing belonging to them, excepting what clothes they had on. Mr. Lander lost all his papers, not one remains to be shown. The Crown got under weigh, and arrived at Fernando Po, on Sunday the 26th. Mr. Lander's wound had mortified, but he died quite composed."

Lt. Allen, R. N. who had been exploring the Niger, arrived at Plymouth on Tuesday last, in the Talbot, 28. Lieut. Allen has completed his surveys, and immediately set off for London, with the interesting results of his expedition.

ENGLISH ABSENTEEISM.—"It is most lamentable," says the January number of the London Quarterly, "to observe the extent to which *aristocratic emigration* is at this particular time going on. We happen to know that the letters of credit granted to English continental travellers by the two principal banking houses in the West End of London, exceed this year, both in number and value, by more than a half those of any preceding year."

MONK LEWIS.—Not many readers, probably, of the present generation, know aught of the work whence *Lewis* received this title, and it is quite as well they never should. In a recent number, however, of the London Quarterly Review, we find a notice of a posthumous work of his, which exhibits both his character and understanding in a more favorable light than his early living publications. It is called "The Journal of a West India Proprietor," and is, in fact, his own journal, he having inherited large estates in the island of Jamaica, on returning from a second voyage to which, in 1818, he died at sea: a sacrifice, according to report, "to a very strange whim, that of persisting, in spite of all advice, to take emetics as a preventive against sea-sickness." The descriptive talent, the playful humor, and the humane and considerate temper in the treatment of his numerous slaves, exhibited in this Journal, together with numerous poetical pieces interspersed through its pages render it quite agreeable reading. We subjoin a short poem written at sea:

THE HELMSMAN.

'Hark! the bell! it sounds midnight!—all hail, thou new heaven!
How soft sleep the stars on their bosom of night!
While oe' the full moon, as they gently are driven,
Slowly floating the clouds bathe their fleeces in light.
The warm feeble breeze scarcely ripples the ocean,
And all seems so hush'd, all so happy to feel!
So smooth glides the bark, I perceive not her motion,
While low sings the sailor who watches the wheel.
'Tis so sad—'tis so sweet—and some tones come so swelling,
So right from the heart, and so pure to the ear.—
That sure at this moment his thoughts must be dwelling
On one who is absent, most kind and most dear.
Oh may she, who now dictates that ballad so tender,
Diffuse o'er your days the heart's solace and ease,
As you lovely moon, with a gleam of mild splendor,
Pure, tranquil, and bright, over-silvers the seas!'

A BRITISH AMBASSADOR.—From an account of "The Transactions of the British Mission at the Court of Persia in 1810-11, by H. Jones Brydges, the Ambassador, the following scene is copied:

In the preliminary treaty, there was one article left indefinite; but it was well understood between the plenipotentiaries in what manner, on the ratification of the treaty, that article was to be made definite by his majesty's government; and I had, throughout the whole of the negotiation, insisted on maintaining as a *sine quâ non*, that this article should, in this respect, be left to the decision of his majesty's government. I had delivered to Meerza Sheeffee, as the principal Persian plenipotentiary, the treaty signed by me, and he had in his hand the counterpart signed by the Persian ministers, apparently ready to deliver me. But all at once he laid it down on the carpet, and took it in his hand to begin talking on the indefinite article, and insisted on its being made definite, before the treaty was sent to England for the ratification of his majesty's government. A little debate ensued, which of course ought not to have been the case, and which, as may be easily imagined, I was anxious to put an end to; when most unexpectedly, and perhaps fortunately for me, he as far forgot himself as to say—'Do you come here to cheat us?' The terms of this speech are in Persian so dreadfully gross, that they cannot be rendered into English by any decent words; on hearing which, I snatched up the counterpart treaty lying on the carpet, gave it to Mr. Morier, rose up and addressed the old minister:—'You stupid old blockhead, do you dare to use these words to me, who in this room represent the King of England?—If it were not for the respect I bear your master, the King of Persia, I would knock your brains out, if you have any, against the wall?' and, suiting the action to the word, I pushed him with a slight degree of violence against the wall which was behind him, kicked over the candles on the floor, left the room in darkness, and rode home, without any one of the Persians daring to impede my passage. The instant I arrived at my lodgings, I retired to my private apartments, which were in a small court separate from those of the gentlemen, and caused the outer-door to be shut. I was scarcely seated, before several persons came thundering at that door; I went to it, and asked them who they were, and what they wanted; they answered they came from Meerza Sheeffee and the Ameen-ed-dowlah, that they had brought with them the treaty, with my signature, and were ordered to demand from me the counterpart, signed by those ministers. To this I answered, 'I cannot be disturbed now; go and tell your masters this is a matter which will keep till morning very well, and by that time, perhaps, Meerza Sheeffee will recollect himself.' They became extremely loud and importunate, and said, 'it was as much as their heads were worth to return without the treaty.' I said, 'I will tell you what it is, my worthy friends; by G—d, if you stay here making a noise and riot, I shall soon make that as much as your heads are worth.' After a little pause, I heard them, on going away, very distinctly say, 'by G—d, this Fringe is either drunk or mad.' I requested the next morning to be admitted to a private audience of the King of Persia; my request was granted, and as soon as I had made my obeisance, his majesty said, 'so Elchee! I suppose you are come to make an apology for your unheard-of behavior last night to my vizier.' 'I am come,' replied I, 'as my duty requires me to do, to explain my conduct to your majesty; and that done, if you judge I have acted wrong, I am willing, as a private person, to submit to any censure your majesty may esteem proper; but I must declare to your majesty, the King of England does not allow his representative to apologize without his royal and special orders; and I need not tell your majesty, that in this room, and in your presence, I am representing that great and powerful sovereign.' I then repeated to the King of Persia the words the minister had made use of to me; and added, 'Suppose I had so far forgotten myself as to have made use of such words to any person deputed to the high honor of representing your majesty, would you have been well pleased if that person had been base enough not to have noticed them in the way they deserved?' The King of Persia laughed, and said, 'Hak darse, you have right on your side; the old man should have recollected what Meerza Bozorg told him about Europeans, and especially about yourself; that in his conversation with them he must take care not to use words to them which he frequently uses to persons of great rank here; but I must call my old minister in, and you must make it up.' Meerza Sheeffee soon

appeared, and the king said, 'Meerza Sheeffee! asofud-doolah, (i. e. vizier of the empire,) here is the English ambassador, come to say he is sorry for what has happened.' 'Stop there, please your majesty; I come to say I am sorry for the occasion of it; but further I will not say.' 'Well, well,' said the king; 'it is for the advantage of my service that you two should be friends; and now, ambassador, I tell you I am well pleased with the treaty as it stands, since I am sure, from what I see of you, that whatever you have held out to us will be performed by your government.' I shortly afterwards left the palace, and in the evening I made a point of appearing at Meerza Sheeffee's meglis, or levee; and from his politeness and attention, it appeared he thought no more of what had happened."

Only conceive, says the London Literary Gazette, such a scene in London! Talleyrand kicking Lord Palmerston, and calling him a stupid old blockhead, &c.; or Prince Esterhazy bestowing a caning on Lord Althorp or Lord Grey, and swearing, he'd be d—d if they kicked up a row, but he would wallop them! Different countries require different manners, perhaps? and different ministers, different treatment? Our Meeras and Ameen-ed-dow-dahs might not like it.

From the *Bubbles of Brunner*—a fantastic title to a very agreeable and sprightly account of the mineral springs of the Duchy of Nassau—we make some extracts to-day, that will be relished, we hope, by our readers.

ENGLISH TRAVELLERS ON THE CONTINENT, AS DESCRIBED BY AN ENGLISHMAN.

"Our *compagnons de voyage* [the party were ascending the Rhine in steamboat] were tri-colored, Dutch, German, and French, and, excepting always ourselves, there was nothing English—nothing, at least, but a board, which sufficiently explained the hungry insatiable inquisitiveness of our travelers.—The black thing hung near the tiller, and upon it there was painted in white letters the following sentence, which I copied literally—

"Enforcing any conversation with the Steersman and Pilotes is desired to be forborn."

"As the vessel proceeded towards Coblenz, it continually paused in its fairy course, apparently to barter and traffic in the prisoners it contained—sometimes, stepping off one little village, it exchanged an infirm old man for two country girls, and then, as if laughing at its bargain, gaily proceeding, it paused before another picturesque hamlet, to give three Prussian soldiers of the 36th regiment for a husband, a mother, and a child—once it delivered an old woman and got nothing, then luckily it received two carriages for a horse, and next it stopped a second to take up a tall thin man, who turned out to be an itinerant poet, and who, as soon as he had collected from every passenger a small contribution for having received two or three little pieces, was dropped at the next village, ready to board the steam-vessel coming down from Mayence.

"In one of these cartels, or exchanges of prisoners, we received on board Sir —— and Lady ——, a young fashionable English couple, who, having had occasion a fortnight ago, to go together to St. George's church, had (like dogs suffering from hydrophobia, or tin canisters) been running straight towards almost ever since. As hard as they could drive, they had posted to Dover, hurried across to Calais, thence to Brussels, snapt a glance at the ripe corn waving on the field of Waterloo, stared at the relics of that great saint, old Charlemagne, on the high altar of Aix-la-Chapelle, and at last sought for rest and convivial refuge at Cologne; but the celebrated water of that town having in its manufacture evidently abstracted all perfume from the atmosphere, they could not endure the dirt and smell of the place, and therefore had proceeded by land to Coblenz; but as they were changing horses at a small village, seeing our steam-boat cantering through the glassy waves, they ordered a party of peasants to draw their carriage to the banks of the river, and as soon as the vessel came smoking alongside, their rosy, fresh-colored French maid, their chocolate-colored chariot, and their brown ill-looking Italian courier, were all on board.

"As soon as this young London couple lightly stepped on deck, we saw at one glance that, without all priding themselves on their abilities, they fancied, and justly fancied, that they belonged to that class of society which in England exclusively, and so modestly calls itself—good. That it was not healthy society, that its victims were exposed to

late hours, crowded rooms, and impure air, was evident enough from the contrast which existed between their complexions and that of their healthy country attendant; however, they seemed not only to be perfectly satisfied with themselves and the clique which they had left behind them, but to have a distaste for every thing else which they saw.— Towards some German ladies, who had slightly bowed to them, they looked with a vacant haughty stare, as if they conceived there must be some mistake, and as if it at all events would be necessary to keep such people off.

" Yet, after all, there was no great harm in these two young people. Their heads were lanterns illuminated with no more brains than barely sufficient to light them on their way, and so, like the babes in the wood, they sat together hand in hand, regardless of everything in creation but themselves."

" For running their carriage down to the shore, the brown confidential courier, whose maxim was of course to pay little and charge much, offered the gang of peasants some kreutzers, which amounted in English currency to about sixpence. This they refused, and the captain of the party, while arguing with the flint-skimming courier, was actually carried off by our steamboat, which, like time and tide, waited for no man. The poor fellow, finding that the Italian was immovable, came ast to the English couple, who were still leaning towards each other like the Siamese twins. He pleaded his case, and in a manly tone of voice prayed for redress. The dandy listened, looked at his boots which were evidently pinching him,—passed four white fingers through the long curls of his jet-black hair—showed the point of a tongue gently playing with a front tooth—and when the whole story was completely at an end, without moving a muscle in his countenance, in a sickly tone of voice, he pronounced his verdict as follows—“ Alley ! ”

" The creditor tried again, but the debtor sat inanimate as a corpse. However, all this time the steamboat dragging the poor peasant out of his way, he protested in a few angry exclamations against the injustice with which he had been treated, (a sentiment we were very sorry to hear more than once mildly whispered by many a quiet-looking German;) and, descending the vessel's side into a small boat which had just brought us a new captive, he landed at a village from which he had about eight miles to walk to join his comrades.

" It is with no satirical feeling that I have related this little occurrence. To hurt the feelings of “ gay beings born to flutter but a day”—to break such a pair of young, flimsy butterflies upon the wheel—affords me neither amusement nor delight; but the every-day occurrence of English travellers committing our well-earned national character for justice and liberality to the base, slave-driving hand of a courier, as well as the bad taste of acting the part of London dandy on the great theatre of Europe, ought to be checked.—*Bubbles*, pp. 26, 29.

The following paragraph, taken from a Frankfort paper of April 13th, 1834, is going the rounds under the head of “ German opinions of American character.”

" We have recent news from our emigrants to America. All of them indicate that the hopes that were entertained have proved fallacious; though none of the emigrants will plainly confess that he has entirely thrown away a happier way of life. Proud and covetous merchants and speculators inhabit the towns on the coast of America and the banks of the rivers; they are of English origin, and look down with an eye of contempt on the good-natured German who seeks only an ideal liberty in a foreign country, and finds a miserable existence; who is plundered if he brings money with him, and repulsed if he appears as a stranger seeking assistance and friendship. But in the interior of the country, none can subsist but the man who has a frame hardened against every kind of privation, who can sleep on straw and dry leaves as well as on a soft feather bed, who is willing to exchange the elastic sofa for a hard seat on a block of wood; in a word, who has courage to fall back from a life of luxury to the rude state of nature."

This certainly betrays great ignorance of the condition of our country generally, but hardly more than may be found in some sections of the Union, in relation to others a few hundred miles off. The Kentuckian at home will ask the New Yorker whether he has any woods or hills in his State; while the New Yorker watches for some outbreaking of the Colonel Wildfire in a man from whom, whatever

may have been his own advantages, he may yet take lessons in politeness. The East Tennesseean will speak of Boston and London as if side by side with each other, and equally far from his mountain home. The Western Virginian will talk about the “ Yankee pedlers” from Pennsylvania, and the Bostonian and Pennsylvanian will know about as much of the Hoosiers of Indiana, as does a West Georgian of fresh codfish and anthracite coal. Step but once from the great highways of travel through which our commercial population are thronging from one end of the Union to the other at all seasons, and it appears that among residents of the middle classes, it is on the frontiers alone where the enterprising and adventurous, from all parts of the Union, from each quarter of the world, are collected, that the geographical features of our broad country, and the mode of living in different sections of it, are clearly understood. Canals and railroads have a great deal to do in making the people of different parts of the Union acquainted with each other, and dispelling the almost incredible ignorance which reigns in some districts, of the pursuits and habits of others, by no means remote. In the meantime, however, much might be effected by a portion of the numerous educated young men, who now, upon leaving college, transfer themselves at once to Europe, after viewing but very little of their own country. It is such as these—men of leisure and accomplishment, who could deviate from the usual routes taken by hurried business men and mere collecting agents, and stir up the good people in old stagnated neighborhoods to something like an aspiration for intelligence and improvement. They too, in their turn, would learn, while catching the tone of a hundred secluded little communities in various parts of the country, what a small portion of public opinion comparatively is manufactured in that well-known circle, which, with them, comprehends “ the world.”

In a condition of society like ours, where ninety-nine men out of a hundred are bound down to regular pursuits by the trammels of business, the roving freedom of a happy, careless few, assimilates them in some points to those classes of water-fowl, which, though they neither build nests on the strange shores to which they wander, nor enrich the woods with music at home, still bear on their journeys, and scatter for casual production, the seeds of a thousand fruits and flowers. †

SUMMARY.

[From the *Baltimore Patriot* of Tuesday.]

We learn that Col. EDWARD LLOYD, formerly Governor of Maryland, and more recently a member of the U. S. Senate, died yesterday at Annapolis, aged 56.

The deceased was a favorite son of his native state—was elected when very young to the House of Delegates, and successively to all the highest stations under government. He bore a conspicuous part on all political occasions of extraordinary interest—and was as remarkable for the munificence of his private hospitality as for his public spirit.—There are few whose death will be heard with more regret by the public; none could be more deeply lamented by those who knew his fine social qualities and peculiar accomplishments.

SUGAR REFINERY.—The New Orleans (La.) Advertiser of the 27th May, says—“ There are now loading at the Sugar Refinery by Messrs. Forestal & Co. four vessels for the Mediterranean. The Refinery is situated about two miles below the city. One hundred and thirty men are employed in it, and the quantity of sugar refined amounts annually to about 12,000,000 of pounds. The whole process is done by steam, and it is said to be, without exception, the most extensive and complete establishment of the kind in the whole world.”

A Sloop Burnt!—The sloop Levant, owned by Messrs. Fitch & Losee, of this city, loaded with lumber, took fire last night, while lying on the Over-slaugh, and burnt to the water's edge. We understand there was no insurance, and that the loss was about \$3000.

EXPLOSION.—On the morning of the 6th instant, soon after commencing their work, Edward Oates and John Cooke were together unfortunately killed, by an explosion of one of the buildings attached to the Orange Powder Mills, near Newburgh.

The only operation required to be performed in that building, is simply passing the grains through parchment sieves, and a silk, reel, by hand. The cause of the misfortune is, therefore, mysterious.

The New Orleans Bulletin of the 24th ult. says “ The weather for several days past, has been exceedingly cold and disagreeable. There has been more or less Cholera in the city all the winter and spring; but latterly cases have increased, and there is reason to fear that it may prevail epidemically again as it did last June.”

Wheat Crops.—The prospects for the wheat crops in this country have greatly improved during the last three weeks. The wheat fields generally have an uncommonly fine appearance, and promise the farmers an abundant harvest. The crop of grass also promises to be very abundant.—[Poughkeepsie Eagle.]

A passenger in the ship Gulnare, from Havre, at Baltimore, states that when he sailed, (April 30th) it was currently reported that Louis Philippe had pledged his private fortune to pay the American Claims, should the Chamber of Deputies again refuse. This says the *Gazette*, must be an error, as our advices by the Sylvanus Jenkins are to the 7th May from Paris, and no mention is made of the fact.

The State Loan.—The State Loan of \$600,000 was on Thursday last taken by E. Chancery, Esq. of Philadelphia, at a premium of two dollars and fifty-eight cents, i. e. he agreeing to pay one hundred and two dollars and fifty cents in money, for every hundred dollars of stock. The loan of \$1,665,400 remains in the market until Thursday, the 10th July.—[Philadelphia Nat. Gaz.]

The venerable Bishop CHASE, says the Detroit Journal, arrived in our city some days since; he preached on Sunday last at the Episcopal Church. This estimable man resides in the St. Joseph county, he appears to enjoy excellent health, and amid the cares and employments of a new farm in new country, he finds leisure for intellectual labors. The occasion of his visit to our city is in part to superintend the publication of a pamphlet he has prepared for the Press.

[From the *Commercial Avertiser*.]

ECONOMICAL PENMAN.—A treatise and samples have been shewn us, entitled “ The economical and expeditious Penman, or an easy method by which a free, legible and elegant style of writing may be readily acquired by a system altogether novel, and hitherto unattempted.” It is for sale by the author, Mr. William Jones, late of London, at his Writing Academy, 202 Broadway. We have witnessed the best test of improvement in writing—the proficiency attained by one of his pupils, and the book referred to is the adaptation of his system to the eye. Its object is, without the aid of a master to enable the purchaser to acquire a style of writing, suited alike to the men of business and the general correspondent. Editors have special reasons for wishing that the art of legible penmanship may be more universally diffused.

A greedy Sheep.—On Thursday last, on a farm in the Aird, a ewe ate the tails of her two lambs completely to the stump! This unnatural preference of mutton to hay and turnips, was witnessed by the farmer and his servants, who interfered to save the lambs from the woolly cannibal, but without effect, as she returned to the charge when unobserved, and accomplished her purpose.—[Inverness Courier.]

A Persian Fable.—I was walking in a beautiful meadow with a friend, where I saw a man, who I knew to be a villain, sleeping in great comfort and tranquility. “ Good heavens,” exclaimed I, “ the evils which this man has committed do not break his repose ! ” “ God,” said my friend, “ suffers villains to sleep, that honest men may live undisturbed.”

From Rio Grande.—By the brig John Alexander, Capt. Berry, arrived yesterday from the above port, we learn that Capt. Baker of the brig *Ganges*, from Boston, having arrived at Rio in March, when the authorities suspecting that he had false coin on board seized the brig and took out all her cargo. Finding however, that it was all entered on the manifest, but among other things there were entered 25 boxes of soap, and as it was not entered as *shaving soap*, they fined the Captain 300 milreas, and confined him one week in prison.—[Gaz.]

Our readers will, we think, be interested by the spirited account in this day's paper of the reception, by the Pawnee, of the United States Commissioner, Mr. Ellsworth, on a mission to effect a treaty with them. We are obliged by the communication of a narrative so graphic and well sustained.

Reception of the United States Commissioner by the Pawnee Indians, October 2, 1833.

The night previous to our arrival at the Pawnee Village was spent by us upon the borders of the Platte River, at about nine miles distance from the town. During the evening, several half breeds who had been sent out by the Commissioner, to gain information of the probable reception which awaited us, came dropping in, and all bearing with them promises of a friendly welcome from the different Pawnee Chiefs. At sunrise the next morning the tents were struck and placed in the heavy baggage wagons; and a more than usual bustle and noise of preparation was heard in the camp, (if two tents accommodating ten persons deserve that name.) The soldiers were seated around upon the grass, examining and preparing their arms for service, in case such service might be required; and about twenty Otoe Indians, who had accompanied us across the prairies, a hundred miles from their village, either from motives of curiosity, or from sheer listlessness, caring little where or how they spent their time, were now busily engaged in ornamenting themselves for the meeting. Some had spread their blankets out upon the prairie, and were anxiously employed in tracing out various figures in vermilion upon their woolly surfaces: some were eagerly bending over the small pools of still water, which were left in the dry bed of the River, painting their faces with the vermilion which they had obtained from the whites, and manifesting all the interest and anxiety in the choice of the ornaments, which in civilized life might be expected from a young girl in preparing for her first ball. Paint was placed on and rubbed off; faces were striped first in one direction, then in another; and the advice of those who were sitting around was asked and given with all the gravity befitting so important an operation. In the meantime, two or three who had finished their toilets, seated themselves off at a short distance to serve as models for the rest; and several who had acquired some reputation for their skill in this art, were busily engaged in painting up the less gifted of their companions. Whilst this was going on in one quarter, in another, five or six Indians, who either had no paint, or cared not about the opinion of those whom they intended to visit, had stretched themselves at full length in the grass, and were keeping up an incessant drumming upon their breasts with their two fists in exact time to a chant, which they were letting out at the top of their lungs, and which they always wound up with a loud yell, by way of chorus.

But there must be an end of all things, and in due time there was an end of the preparations. The tents were packed; the Indians were painted and striped to resemble any thing but men; the soldiers had examined their arms; the horses were saddled; the oxen were secured before the heavy baggage wagons, and the party commenced slowly moving onward towards the village.

It was a fine sunny morning in October, the clumps of trees which clustered on the low banks of the river, the numberless small islands which dotted the surface of its broad shallow water, were alive with woodpeckers of every size and hue, who were darting among the tall dead trees which overhung the dark and muddy stream, and making their trunks resound with the incessant hammering of their small but powerful beaks; large flocks of gaily plumed paroquets whirled screaming past us with a surprising velocity, darting like lightning among the branches of the trees which skirted the banks of the river.

At ten o'clock the party had travelled several miles across the prairie, and our vicinity to the village was becoming more perceptible. Mounted Indians, who had been sent out to watch for our approach, were seen here and there flying across the hills in the direction of the village, to give notice of the arrival to their Chiefs. At a distance we could perceive several bands of Indians in pursuit of large droves of their wild and fiery horses, which they were urging forward at a headlong speed in the direction of the town, and in another quarter, on the tops of a ridge of small hills, groups of five or six were standing, intently watching the motions of the party, which, from the jaded state of the oxen, were necessarily slow. The soldiers who had been lazily lounging along across the prairie, were now called in and formed in a compact body around the baggage

wagons in case of danger; and an hour more brought us in sight of the village.

Upon our nearer approach, we could perceive that the hills which surrounded the place were black with the living mass of mounted warriors which swarmed upon their tops to the number of several thousands, and who now stood silently watching the approach of the Mission. At length a single horseman detached himself from the mass, and came galloping down the hill and over the prairie to meet us. As he approached nearer, the wild free air of the rider, and the ease with which he governed his gigantic black horse, could not but raise the thought that, if the rest of these warriors were of the same mould, any resistance of our band, however desperate, would have availed but little against the attack of these proud rulers of the prairie.

Upon reaching the party, he sprung from his horse, and after shaking hands with Mr. E., he gave directions (through the Interpreter), that the band should be drawn up in as small a compass as possible, to avoid all contact with his warriors, and after spending some time in completing his arrangements, he galloped back and gave the signal to the rest.

In an instant, the hills were deserted, and the whole mass of warriors were rushing towards us across the broad bosom of the prairie. It was a moment of intense and fearful expectation. On, on, they came, each mad horse with erect mane and blazing eye, urged forward by the bloody spur of an Indian master, and that master a being who acknowledged no superior but the Great Spirit, and no ruler save his own wild will.

They had reached within two hundred yards of the party, but still the speed of their horses was unchecked; the powerful tramp of their hoofs rung like thunder upon the sod of the prairie, and the wild forms of their riders were still urging them onward towards us, when at a signal from the Chief, the band separated to the right and left, and commenced circling around the party, in one dark, dense flood of human beings, while the whoops and yell which rung shrilly around us, and the furious and menacing manner in which they brandished their bows and tomahawks, would have led a person unacquainted with their habits to have looked upon this reception as any thing but friendly; and there is something in the fierce, shrill scream of a band of Indian warriors, which rings through the brain, and sends the blood curdling back to the heart.

Their ornaments, though wild, were many of them beautiful: the closely shaven heads of some were adorned with the plumage of different birds; others wore an ornament of deer's hair, bound up in a form resembling the cone of an ancient helmet, and a plume of the bald eagle floated from the long scalp locks of the principal warriors.

Some few wore necklaces of the claws of the grizzly bear, which hung down upon their breasts, and the bodies of some were covered with buffalo robes, or the skin of the white wolf; but the most of them wore no covering, save a thick coat of paint, which they had profusely smeared over their bodies and arms, and which many had even bestowed upon the heads and limbs of their horses. After circling around us for some time, the chief waved his hand, and the tumult ceased: the warriors sprung from their horses, and seating themselves around in a large circle, awaited the arrival of the Chief of the Grand Pawnees, who in a few moments advanced to meet Mr. E., accompanied by the different chiefs of Tappaye Pawnee, Pawnee Republican, and Pawnee Loup villages.

He was a tall powerful Indian; a fillet made from the skin of the grizzly bear, and ornamented with feathers, was bound around his head: over his shoulders was thrown a large mantle, made from the skin of the white wolf, also adorned with feathers: his legs were cased in black leggings of dressed buffalo hide, worked with beads, and fringed with long locks of human hair, which he had taken from the scalps of those who had fallen beneath his arms in his various war expeditions, and which now hung down over his knees, and trailed upon the ground as he strode up to the party.

He first advanced and welcomed Mr. E. and afterwards the rest. The chiefs of the three different villages were then introduced, and repeated the words of welcome uttered by the first.

This ceremony was scarcely finished, when a movement was observed among the crowd, and in a moment after, a powerful roan horse, mounted by an armed Indian, bounded forward to the middle of the circle, where the rider sprung from his back.—He was a stranger among the tribe, and spoke not their language; a Cuyway Indian from the borders of Mexico, a member of those wild tribes, the Arabs

of the West, who are continually on the wing, sweeping those immense plains, and carrying destruction to all who are not strong enough to resist them, having no home but the prairie, no trade but war, no property save the horse that bears them, the arms which they wield, and the plunder which they strip from their victims. After pausing and looking around him for a moment, with a glance that seemed to challenge any opposition from the assembled warriors, he walked up to Mr. E. He was a slight and beautifully formed Indian, but there was a fire in his eye, a swell of the nostril, and a proud curve of the lip, which showed a spirit that brooked no opposition, shunned no danger, and which could only be quenched by the chill of the grave.*

His long black hair, which trailed behind him upon the ground, was platted together, and ornamented with about twenty plates of massive silver; a band of silver was fastened around his throat, and several large medals of the same metal hung down upon his breast; upon his arms were several bands of silver, and rings of the same upon his fingers; his leggings, though more finely wrought, like those of the other chiefs, were fringed with scalps; and a scalp, consisting of the entire upper part of a human head, hung from the bit of his fiery horse.

Upon coming up he offered his hand to Mr. E., and in succession to the rest; and after pausing and gazing upon us for a short time, with some curiosity, he sprung upon his horse, and riding through the circle, was lost behind the more distant crowd of warriors.

After the introduction of the various Chiefs had been performed, from among the mass of grim beings which hemmed us in, and who were now seated upon the ground like so many dark forms of statuary, without voice and without motion, several arose, and coming towards Mr. E., and Major D., the United States Agent for the Pawnee Indians, extended the stem of their pipes to the lips of each, and instantly retiring, resumed their station in the crowd. By this action, we afterwards learned, that each had pledged himself to present a horse to the person to whom he had extended his pipe. In the meanwhile, two old men, who had assembled with the rest, and had no horses to lose by the free indulgence of liberal feelings, rose up, and by loud and vehement harangues endeavored to excite the liberality of the rest by boasting of the number they would bestow, if they but had them, and recounting the acts of generosity which they had performed in their youth, and which, as that youth ran far back beyond the memory of the eldest inhabitant, there was but little possibility of contradicting.

After they had finished, the Wild Horse, (I do not recollect his Indian name) the principal warrior of the nation, stood up and harangued the assembled multitude, launching out in a long panegyric upon the whites, which was delivered with a warmth of expression no doubt greatly increased by the sight of the wagons loaded with presents, which accompanied the party, and which are always necessary to the successful accomplishment of an Indian treaty.

This warrior was one of the most singular, as well as ferocious of the tribe; and many were the tales of his war expeditions, afterwards related to us by the trappers, when we assembled around our night fires after a long day's travel across the prairies. His height could have been but little short of seven feet and every limb of his frame was proportioned in size and strength to his giant height. Unlike the rest of his tribe, his hair remained unshaven, and hung in long tangled locks which reached nearly to his waist, and were profusely smeared with red ochre. His low retreating forehead was almost buried in wrinkles; and deep set in his head were two eyes which glowed like living coals. His nose was large and prominent, and the size of an enormous mouth was not at all diminished by two streaks of vermilion which he had drawn from each corner to his ears. He wore neither covering nor ornament, unless the profusion of black clay and red ochre which covered his body, deserved that name; but he stood out in his naked proportions, a giant among those who sur-

* We afterwards learned that this Indian had become attached to a young girl of his own tribe, who was the wife of another, but her husband having started upon some expedition she had taken advantage of his absence to leave her nation with her lover, and together they had fled to the Pawnee village which they had reached a week previous to our arrival. We were afterwards so fortunate as to see the girl, and it was admitted by all that she was one of the most elegant Indian women they had ever beheld, and that her beauty went far in extenuation of the act of her Indian lover.

rounded him, whilst the wild energy of his gesticulation as he delivered his harangue, served to show the prodigious strength which lay hidden in that form, and which only required an occasion to bring it into action. From his youth upward, he had been the leading warrior of the nation, and his deeds had spread a terror of his name through all the hostile tribes. Though no chief, his influence with the nation was equal to theirs, rendering him as much an object of jealousy to them as of dread to their enemies.

When he had finished his address, the Chief arose and spoke to his men; after which, the circle opened and forming into two lines, one on each side, prepared to escort the party into their village. I.

MICHIGAN.

This portion of our country is very justly attracting a very large share of public attention. To the farmer it is interesting on account of its luxuriant soil and healthful climate; to the merchant for its immense facilities for trade, being intersected in all directions by fine rivers, penetrated by deep bays, and surrounded by magnificent lakes; to the statesman and philanthropist, it is interesting, as destined to be the speedy home of hundreds of thousands of enterprising emigrants who will exercise an important influence in the affairs of the nation, and whose heterogeneous character will afford a curious subject of observation. The character of the interior of Michigan is much misunderstood. Instead of being a cold, wet region, there is no country more dry, rolling and pleasant, after you get out 15 or 20 miles from the Lakes and their connecting rivers. The innumerable little lakes interspersed through the country, serve to drain it perfectly; and one can scarce imagine a more pleasing sight than the gently rolling hills, covered with the orchard-like woods, which constitute the *Oak Openings*, surrounding one of those deep, clear and crystal-like pools, abounding in fish.

It is a matter of surprise that this region is not more visited by those who travel so much every summer for health or amusement. Travelling has been rendered so convenient that it has lost all its terrors even to the most delicate. Starting from New York, for instance, in a few days we may find ourselves, after a delightful tour up the Hudson, and through the beautiful villages and cultivated fields of the interior of New York, at the Falls of Niagara, where no man can live without becoming a poet, such is the inspiring influence of the scenery. Near this too are the scenes of several of the most interesting military operations of the last war. Embarking at Buffalo, we find ourselves on board a steam ship far superior in safety and comfort to any thing of the kind to be found on the North River; and in 30 to 36 hours we find ourselves at Detroit, where we may see a most thriving city of five or six thousand inhabitants, and where we will meet an active and intelligent people, than whom none in the Union are more hospitable and liberal. Here, too, if we are so fortunate as to have a good reference, we will find a comfortable home at the house of Mrs. Snelling, widow of the late gallant Col. Snelling of the army. This lady occupies the former residence of old Gov. Hull, the only house in the city well adapted for a boarding house, where she combines the elegant taste of our eastern cities with the ease, frankness, and conviviality of the West.

After enjoying the hospitality of Detroit, and viewing the interesting region around, some of whose scenes have become truly classic, we may step on board the splendid steamboat Michigan, and wend our way to Macinac, Saut de Ste. Marie, Green Bay and Chicago; and return in the same boat, or cross the Peninsula by land, or travel eighty miles across the prairie to the falls of the Illinois, where we can take a steamboat twice a week to St. Louis, and return by way of the Ohio. Either of these routes may be travelled with much ease, little expense, and great pleasure. The whole tour from New York to Chicago and back would not occupy more than four weeks; and how much better it would be to make this tour than to idle four weeks away at Saratoga, I leave those interested to judge. The fine new steamboat Michigan will leave Buffalo on the 10th July and 1st August on this tour, and goes expressly to accommodate passengers wishing to see the regions of the Upper Lakes.

L.

[From the *Journal of Commerce* of yesterday.]

DEPARTURE OF THE MORRISON.—The ship Morrison, Captain Lavender, left us yesterday, bound to Canton. She has on board as passenger, the Rev. Peter Parker, late of Framingham, Mass., who goes out as missionary to China. This gentleman, during the two or three weeks he has been in this city, has

gained the affectionate confidence of all who have had intercourse with him. Sunday before last, we had the pleasure of hearing him preach, and again last Sunday evening, of listening to a Farewell Address which he delivered in the Bleecker st. Church. On the latter occasion, notwithstanding the rain, the house was crowded to excess. Every aisle and corner where a person could find footing, even to the pulpit stairs, was occupied, and many went away, from the impossibility of gaining admittance. A delightful impression was left upon the minds of the audience by the various exercises of the evening, among which was the communication of Instructions by the Rev. Dr. Wisner, as Secretary of the American Board of Missions, and an address by the Rev. Dr. Spring.

Yesterday morning, at six o'clock, a meeting was held at the house of Abijah Fisher, Bleecker street, for the purpose of commanding both the Missionary and the Missionary cause to the care of Omnipotence. Some of our friends who were present, tell us that it was a scene of rare and peculiar interest. After singing the first two verses of the 496th of the Village Hymns, "Go, messenger of love," &c., prayer was offered by the Rev. Elihu W. Baldwin. Then were sung the 1st and last two verses of Heber's missionary hymn,

"From Greenland's icy mountains."

Next a prayer was offered by the Rev. O. Eastman—after which was read the 91st Psalm—"He that dwelleth in the secret place of the Most High," &c. Prayer by the Rev. Erskine Mason. Address, by the Rev. Dr. Wisner. Parting address and prayer, by the Rev. Peter Parker. Next were read the last three verses of the Gospel of Matthew, containing the commission of our Saviour, "Go ye therefore and teach all nations." Mr. Parker then read the following hymn, and added, addressing himself to the little assembly, "I want you to sing it, for I cannot."

THE MISSIONARY'S FAREWELL.

Kindred, and friends, and native land,
How shall we say farewell?
How, when our swelling sails expand,
How will our bosoms swell?
Yes, nature, all thy soft delights
And tender ties we know;
But love, more strong than death, unites
To him that bids us go.
Thus, when our ev'ry passion mov'd,
The gushing tear drop starts;
The cause of Jesus more belov'd,
Shall glow within our hearts.
The sighs we breathe for precious souls,
Where He is yet unknown,
Might waft us to the distant poles,
Or to the burning zone.
With the warm wish our bosoms swell,
Our glowing pow'rs expand;
Farewell,—then we can say,—Farewell,
Our friends, our native land!

The exercises were concluded with prayer, and the benediction by Rev. Dr. Wisner.

At 9 o'clock, or soon after, Mr. Parker, accompanied by a number of missionary friends, went on board the steamboat Rufus King, and proceeded to the ship, then lying off Bedlow's Island. While towing the ship to sea, religious services were held on board the steamboat.

Mr. Parker is both a clergyman and a physician. His design is, we understand, to associate himself in labors and travels with the celebrated missionary Gutzlaff. He knows full well that the service he has undertaken is full of peril; but he has counted the cost. He leaves his home and country, (never expecting to see either again,) not only with cheerfulness, but with a glow of pious feeling which makes him a truly happy man. Possibly some of our readers may deem our language strong; but we know that those who have been present during the scenes to which we have alluded, will think it tame and cold, in comparison with the reality.

Mr. Parker is accompanied by a Chinese youth, 19 years of age, who, by some means or other, found his way to this country, and has acquired considerable knowledge of our language. Mr. P. hopes to derive much assistance from him, during the voyage, in learning the Chinese. "I no like my country's religion," said the young man, on being conversed with by Mr. Parker: "I like your religion better." "Then what do you go back to China for?" asked Mr. Parker. "To get more money," was the reply. We faint would hope, that by his intercourse with that excellent man, he may gain, with the blessing of God, what is more valuable than money, or worlds.

The owners of the Morrison, Messrs. Talbot, Olyphant & Co. have been extremely kind to Mr. Parker, and among other tokens of their interest in him and the cause he goes to plead, they give him his passage gratis. Mr. Olyphant has himself gone passenger in the Morrison, together with his eldest son

and a daughter. He expects to be absent about two years.

The Morrison got to sea about half past 12 o'clock on Wednesday, and was well off, probably, before the blow during the night.

[From the *London Literary Gazette*, of April 19.]

"THE VOICE OF THE WAVES."

(Written near the Scene of a recent Shipwreck.)

"Answer, ye climbing waves,

That now in sunshine sweep;

Speak to me from thy hidden caves,

Voice of the solemn deep!

Hath man's lone spirit here

With storms in battle striven?

Where all is now so calmly clear.

Hath anguish cried to Heaven?

Then the sea's voice arose,

Like an earthquake's under-tone—

Mortal, the strife of human woes

Where hath not nature known?

Here to the quivering mast

Despair hath wildly clung;

The shriek upon the wind hath past,

The midnight sky hath rung.

And the youthful and the brave

With their beauty and renown,

To the hollow chambers of the wave

In darkness have gone down.

They are vanished from their place

Let their homes and hearths make moan!

But the rolling waters keep no trace

Of pang or conflict gone.

Alas! thou haughty deep!

The strong, the sounding far!

My heart before then dies—I weep

To think on what we are!

To think that so we pass,

High hope, and thought, and mind,

E'en as the breath stain from the glass,

Leaving no sign behind!

Saw'st thou nought else, thou main,

Thou and the midnight sky—

Nought, save the struggle, brief and vain,

The parting agony?

And the sea's voice replied—

"Here noble things have been!

Power with the valiant when they died,

To sanctify the scene:

Courage, in fragile form,

Faith, trusting to the last,

Prayer, breathing heavenward through the storm,—

But all alike have passed."

Sound on, thou haughty sea!

These have not passed in vain;

My soul awakes, my hope springs free

On victor wings again,

Thou, from thine empire driven,

May'st vanish with thy powers:

But, by the hearts that here have striven,

A loftier doom is ours!"

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

ALSO—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangold Wurtzel, Yellow Loest, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN.

347 N. Market st. (opposite Post Office.)

Catalogues may be had at the Store; if sent by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit—

NEW YORK FARMER and American Gardener's Magazine, MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them by calling at 347 North Market street, Albany.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833.

A. & R. M. & F.

It is stated in the *St. Augustine Herald*, that the *Savannah and Florida Steam Boat Company* propose, in connexion with the boat now running between *Savannah* and *St. Johns*, to carry their operations across the Peninsula and even to *New Orleans*. *Peter Mitchel*, Esq. of *Savannah*, (lately of *Florida*, where he is known as an enterprising and talented gentleman, and also as extensively acquainted with their geography, resources and capabilities,) was recently commissioned by the company to examine the country between the navigable waters of *Black Creek* and those of the *Santafie river*, with a view to the facilities of this communication.—It is proposed by the company to make an establishment on *Black Creek*, and another on the *Santafie*, and to communicate between these two points by a line of stages, it being but about sixty miles from one to the other. To their location on the latter river, steamboats will be accessible, and from it to *New Orleans*, with which they will be enabled to communicate in about two days. It is calculated, that by this route and with no other facilities over land than the usual accommodation stages and steamboats on the *Atlantic* and *Gulf*, an easy correspondence may be maintained between *New York*, via *Charleston* and *Savannah*, and *New Orleans* in eight days.

Railroads in England.—There is now building in England what they term "The great Western Railroad," which is to connect *London* and *Bristol*. Another is building between *London* and *Southampton*; another from *London* to *Greenwich*; another from *London* to *Birmingham*; another from *Hull* to *Shelby*; and the *Northern Union Railroad*.

An Otaheitan Bride.
"The bride, *Miss Kingatara Orurath*, an Otaheitan, is the daughter of *Dematrfrg womldammsfr*, one of the chiefs of the island, and is connected with most of the noble families of the kingdom. She is about sixteen years of age, of a bright mahogany color, with her cheeks tattooed in the most lovely manner, and her ears slit in a style peculiarly fascinating. Her eyes are large, and of a greenish color. Her lovely form, which was almost six feet six inches tall, was gracefully enveloped in an old blanket, and during the performance of the matrimonial rites, the fair bride stood before her happy lover modestly masticating a sugar cane. The young lady is said to be highly accomplished, and delighted the company assembled on this solemn occasion, by an exhibition of her superior skill in swimming. The bridegroom is a hearty mariner of *Newport*."

The body of a man six feet in height, without coat or hat, a cloth vest, satinet pantaloons, white cotton socks and brogans, with a stone of fifty pounds weight tied to his legs, was found near the bank of the river, five miles below *St. Stephen's*, *Alabama*.

[From the *Village Post*.]

LAND-BREEZE BETWEEN THE TROPICS.

"The forests of *Brazil* are filled with aromatic plants, whose perfumes are often wafted many leagues to sea." To the billow-borne pilgrim, alone on the seas, How sweet comes the perfume of land with the breeze! 'Tis the breath of a summer, eternal in prime; The kindest fragrance of sun-gladdened clime! Those wanderings of sweetness, how welcome they are! That tell of a country unseen and afar. Like the morning, their advent aye ushers a smile; And the rover's heart dances in joyance the while. To cheer his lone vigil at midnight, they tell Of meadow and mountain, of forest and dell— Till his eye o'er the ocean forgetbeth to roam, And he walks in his slumber the fields of his home. Thus oft on life's billow, with bark tempest driven, The voyager fancies the breathings of Heaven! The past and the present remembering no more, He greets in his vision the world that's before.

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TOWNSEND & DURFEE, of *Palmyra, Mass.* manufacturers of *Railroad Rope*, having removed their establishment to *Hudson*, under the name of *Durfee, May & Co.* offer to supply *Rope* of any required length (without splice) for inclined planes of *Railroads* at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of *Rope*, the public are referred to *J. B. Jervis*, Eng. M. & H. R. R. Co., *Albany*; or *James Archibald*, *Engineer* *Hudson* and *Delaware Canal and Railroad Company*, *Carbon date*, *Luzerne county, Pennsylvania*.

Hudson, Columbia county, New-York,
Jan 27, 1833.

SURVEYOR'S INSTRUMENTS.

TCompasses of various sizes and of superior quality warranted. Leveling Instruments, large and small sizes, with high magnifying power with glasses made by *Troughton*, together with a large assortment of Engineering Instruments, manufactured and sold by **E. & G. W. BLUNT**, 154 Water street, corner of Maldenlane.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, of *PHILADELPHIA*, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to *Col. Stephen H. Long*, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of *Philadelphia*, and shall receive prompt attention.

By order of the Company,

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of *Railroad Journal*.

RAILWAY IRON.

Ninety-five tons of 1 inch by $\frac{1}{2}$ inch,	Flat Bars in lengths of 14 to 16 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nail
200 do. 1 $\frac{1}{2}$ do. $\frac{1}{2}$ do.	
40 do. 1 $\frac{1}{2}$ do. $\frac{1}{2}$ do.	
800 do. 2 do. $\frac{1}{2}$ do.	
800 do. 2 $\frac{1}{2}$ do. $\frac{1}{2}$ do.	
	soon expected.
	to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Loco motive wheels.

Axes of 24, 28, 32, 34, 36, and 38 inches diameter for Rail way Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, *Philadelphia*.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

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ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new; among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

W. M. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the *Baltimore and Ohio Railroad*, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the *Engineer and Gradiation Department*.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.

Germantown, and Norristown, Railroad

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 204 Elizabeth street, near Bleecker street,

New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and *Harlem Railroad*, now in operation.

J 25 tf

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J 8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Not's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the *Baltimore and Ohio Railroad Company*. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the *Baltimore and Ohio Railroad*.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewin and Heartte—As you have asked me to give my opinion of the merits of those Instruments of your Manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the *Baltimore and Ohio Railroad*.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.

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